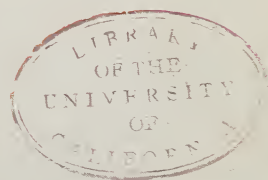


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GIFT
NOV 9 1916

Gleanings in Tree Culture



IRRIGATION IN THE IMPERIAL VALLEY

Seasonable Goods

- Tenement Winter Cases
- Buckeye Bee Hives
- Shipping Cases
- Five-gallon Cans
- Five and Ten Pound Pails

Four per cent Discount on Goods for Next Year's Use

M. H. Hunt & Son, 510 N. Cedar St., Lansing, Mich.

Raw Furs My graders' guide and price list are FREE.....

Furs held separate on request. Rug and robe making a specialty. No commission or express to pay when you ship to

GEO. E. KRAMER, Valencia, Pa.

Mention "Cleanings"



4 MONTHS FOR 10¢
Trial Subscription To Fruit and Garden Paper

Tells about planting, pruning, spraying and selling fruit and garden truck.

Ask Us Your Hard Questions.

We conduct this department for the special benefit of our subscribers. Experts answer all questions by mail and through the columns of the magazine.

Fruitman and Gardener, 106 Main St. Mt. Vernon, Ia.

WHY NOT

Order Your Supplies for Next Season Now?

This last season was an unusual one and beekeepers felt the need of supplies during the honey season. It meant a loss to them if not on hand. Freight this year has been slow for some reason. Why not be forehanded and have the goods on hand when wanted? We try to get goods off promptly but the railroads were slow in making delivery---a month or more in some instances. Goods ordered now carry 4 per cent discount during October. Send in your order just as soon as you find out just what you require and we will take care of it promptly.

F. A. SALISBURY, Syracuse, New York

1631 West Genesee St.

SHIPPING-CASES FOR COMB HONEY

Don't make the mistake of putting a fine lot of section honey in poor shipping-cases. It will lower the price to you and damage your future sales. "Falcon" cases are A No. 1, and will be a credit to any crop of honey. Prices are as follows:

Shipping-cases in Flat, without Glass.

No. 1....holding 24 sections, $4\frac{1}{4} \times 1\frac{7}{8}$, showing 4.....	10,	\$2.00;	100,	\$18.00
No. 3....holding 12 sections, $4\frac{1}{4} \times 1\frac{7}{8}$, showing 3.....	10,	\$2.00;	100,	\$18.00
No. 1 $\frac{1}{2}$holding 24 sections, $4\frac{1}{4} \times 1\frac{1}{2}$, showing 4.....	10,	\$1.90;	100,	\$17.00
No. 6....holding 24 sections, $3\frac{3}{4} \times 5 \times 1\frac{1}{2}$, showing 4.....	10,	\$1.80;	100,	\$16.00
No. 8....holding 24 sections, $4 \times 5 \times 1\frac{3}{4}$, showing 4.....	10,	\$1.80;	100,	\$16.00

Shipping-cases with Glass.

	with 3-inch glass	with 2-inch glass
No. 11....Same as No. 1....Nailed, 35c; in flat, 1,	25c; 10, \$2.30; 100, \$21.00.....	100, \$20.00
No. 13....Same as No. 3....Nailed, 22c; in flat, 1,	15c; 10, \$1.40; 100, \$12.50.....	100, \$12.00
No. 11 $\frac{1}{2}$Same as No. 1 $\frac{1}{2}$Nailed, 35c; in flat, 1,	25c; 10, \$2.20; 100, \$20.00.....	100, \$19.00
No. 16....Same as No. 6....Nailed, 30c; in flat, 1,	22c; 10, \$2.10; 100, \$19.00.....	
No. 18....Same as No. 8....Nailed, 30c; in flat, 1,	22c; 10, \$2.10; 100, \$19.00.....	

Red Catalog, postpaid

Dealers Everywhere

"Simplified Beekeeping," postpaid

W. T. FALCONER MFG. COMPANY, FALCONER, NEW YORK
where the good beehives come from.

HONEY GRADING RULES

GRADING RULES OF THE A. I. ROOT COMPANY, MEDINA, OHIO.

In harmony with the Federal net-weight regulations and the statutes of many states, all comb honey we handle is figured with the weight of the section box as well as the case excluded. To get the net weight, deduct the weight of the empty case and 1 lb. 8 oz. for the weight of 24 sections (1 oz. each).

COMB HONEY.

Extra Fancy.—Sections to be evenly filled, combs firmly attached to the four sides, the sections to be free from propolis or other pronounced stain, combs and cappings white, and not more than six unsealed cells on either side. No section in this grade to weigh less than 14 oz. net. Cases must average not less than 22 lbs. net.

Fancy.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain; comb and cappings white, and not more than six unsealed cells on either side exclusive of the outside row. No section in this grade to weigh less than 13 oz. net. Cases must average not less than 21 lbs. net.

No. 1.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain; comb and cappings white to slightly off color, and not more than 40 unsealed cells, exclusive of the outside row. No section in this grade to weigh less than 11 oz. Cases must average not less than 20 lbs. net.

No. 2.—Combs not projecting beyond the box, attached to the side not less than two-thirds of the way around, and not more than

60 unsealed cells exclusive of the row adjacent to the box. No section in this grade to weigh less than 10 oz. net. Cases must average not less than 18 lbs. net.

CULL COMB HONEY.

Cull honey shall consist of the following: Honey packed in soiled second-hand cases or that in badly stained or propolized sections; sections containing pollen, honey-dew honey, honey showing signs of granulation, poorly ripened, sour or "weeping" honey; sections with combs projecting beyond the box or well attached to the box less than two-thirds the distance around its inner surface; sections with more than 60 unsealed cells, exclusive of the row adjacent to the box; leaking, injured, or patched-up sections; sections weighing less than 10 oz. net.

EXTRACTED HONEY.

This must be well ripened, weighing not less than 12 lbs. per gallon. It must be well strained; and, if packed in five-gallon cans, each can shall contain sixty pounds. The top of each five-gallon can shall be stamped and labeled, "Net weight not less than 60 lbs." Bright clean cans that previously contained clean light honey may be used for extracted honey.

EXTRACTED HONEY NOT PERMITTED IN SHIPPING GRADES.

Extracted honey packed in second-hand cans, except as permitted above.

Unripe or fermenting honey, or weighing less than 12 lbs. per gallon.

Honey contaminated by excessive use of smoke.

Honey contaminated by honey-dew.

Honey not properly strained.

GRADING RULES OF THE COLORADO HONEY-PRODUCERS' ASSOCIATION, DENVER, COLO.,
FEBRUARY 6, 1915.

COMB HONEY.

FANCY.—Sections to be well filled, combs firmly attached on all sides and evenly capped except the outside row next to the wood. Honey, comb, and cappings white, or slightly off color; combs not projecting beyond the wood; sections to be well cleaned. No section in this grade to weigh less than 11 oz. net or 13½ gross. The top of each section in this grade must be stamped, "Net weight not less than 12½ oz."

The front sections in each case must be of uniform color and finish, and shall be a true representation of the contents of the case.

NUMBER ONE.—Sections to be well filled, combs firmly attached, not projecting beyond the wood, and entirely capped except the outside row next to the wood. Honey, comb, and cappings from white to light amber in color; sections to be well cleaned. No section in this grade to weigh less than 11 oz. net or 12 oz. gross. The top of each section in this grade must be stamped, "Net weight not less than 11 oz." The front sections in each case must be of uniform color and finish, and shall be a true representation of the contents of the case.

NUMBER TWO.—This grade is composed of sections that are entirely capped except row next to the wood, weighing not less than 10 oz. net or 11 oz. gross; also of such sections as weigh 11 oz. net or 12 oz. gross, or more, and have not more than 50 uncapped cells all together, which must be filled with honey; honey, comb, and cappings from white to amber in color; sections to be well cleaned. The top of each section in this grade must be stamped "Net weight not less than 10 oz." The front sections in each case must be of uniform color and finish, and shall be a true representation of the contents of the case.

Comb honey that is not permitted in shipping grades.

Honey packed in second-hand cases.

Honey in badly stained or mildewed sections.

Honey showing signs of granulation.

Leaking, injured, or patched-up sections.

Sections containing honey-dew.

Sections with more than 50 uncapped cells, or a less number of empty cells.

Sections weighing less than the minimum weight. All such honey should be disposed of in the home market.

EXTRACTED HONEY.

This must be thoroughly ripened, weighing not less than 12 pounds per gallon. It must be well strained, and packed in new cans; sixty pounds shall be packed in each five-gallon can, and the top of each five-gallon can shall be stamped or labeled, "Net weight not less than 60 lbs."

Extracted honey is classed as white, light amber, and amber. The letters "W," "L A," "A" should be used in designating color; and these letters should be stamped on top of each can. Extracted honey for shipping must be packed in new substantial cases of proper size.

STRAINED HONEY.

This must be well ripened, weighing not less than 12 pounds per gallon. It must be well strained; and, if packed in five-gallon cans, each can shall contain sixty pounds. The top of each five-gallon can shall be stamped and labeled, "Net weight not less than 60 lbs." Bright clean cans that previously contained honey may be used for strained honey.

Honey not permitted in shipping grades.

Extracted honey packed in second-hand cans.

Unripe or fermenting honey weighing less than 12 lbs. per gallon.

Honey contaminated by excessive use of smoke.

Honey contaminated by honey-dew.

Honey not properly strained.

YOU DON'T WAIT FOR MONEY WHEN YOU SHIP MUTH YOUR HONEY

We Remit the Day Shipments Arrive.

We are in the market to buy **FANCY AND NUMBER ONE WHITE COMB HONEY**, in no-drip glass front cases. Tell us what you have to offer and name your price delivered here.

Will also buy—

White Clover extracted and Amber extracted.

A few cars of California Water White Sage.

A few cars of California Orange Blossom.

When offering extracted honey mail us a sample and give your lowest price delivered here, we buy every time you name a good price.

We do beeswax rendering; ship us your old combs and cappings. Write us for terms.

THE FRED. W. MUTH CO.

"THE BUSY BEE MEN"

204 Walnut Street.

CINCINNATI, O.

HONEY MARKETS

BASIS OF PRICE QUOTATIONS.

The prices listed below, unless otherwise stated, are those at which sales are being made by commission merchants or by producers direct to the retail merchants. When sales are made by commission merchants the usual commission (from five to ten per cent), cartage, and freight will be deducted; and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage and other charges are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

PHOENIX.—There is a marked increase in prices as well as inquiry for our amber honey. Amber in tin five-gallon cans, 2 to the case, offered at 6 cts. f. o. b. Phoenix for what seems to be the last car lot unsold as practically all of our season's crop has been sold. Wax is firm at 25 to 26.

Phoenix, Oct. 21.

WM. LOSSING.

KANSAS CITY.—The demand for honey is not improving. However, we look for a better market with colder weather. We quote fancy comb honey, per case, \$3.00; No. 1, \$2.90; No. 2, \$2.75. White extracted honey brings 8½ to 9; light amber in cans, 7½; amber in cans, 8. Clean average yellow beeswax brings 25.

C. C. CLEMONS PRODUCE CO.

Kansas City, Oct. 21.

BUFFALO.—We report a better demand for comb honey and all available stock on the market is clearing in good shape. Stocks on hand are light, and receipts continue small. We quote extra fancy comb honey, per lb., 16; fancy, 15½; No. 1, 15; No. 2, 13 to 14; white extracted honey, 8; light amber, in cans, 7 to 7½. Clean average yellow beeswax brings about 32.

Buffalo, Oct. 25.

GLEASON & LANSING.

LOS ANGELES.—Only small lots of extracted are in the hands of producers. Dealers have about enough for local use. A large stock of comb honey is looking for a fair market, mostly in hands of producers; quality fair. We quote extra fancy comb honey, per case, \$4.25; fancy, \$3.85; No. 2, \$2.50. White extracted honey brings 8½; light amber, in cans, 8; amber, 7. Clean average yellow beeswax brings 35.

Los Angeles, Oct. 23.

GEO. L. EMERSON.

ALBANY.—There is a good demand for straight grades of clover and buckwheat, while mixed quality sells at buyer's prices. We quote fancy white, 15; No. 1, 14; mixed, 13; buckwheat, 13; mixed, 12. The crop is large, and we don't refuse reasonable offers rather than lose sale. Fancy comb honey brings 15; No. 1, 14; No. 2, 12 to 13. White extracted honey brings 8 cts.; light amber, in cans, 7 to 7½; amber, in cans, 7. Clean average yellow beeswax brings 30 to 32.

Albany, Oct. 25.

H. R. WRIGHT.

TEXAS.—The long-protracted drouth has been broken in most sections of the state, which will, if we have late frost, give the bees a chance to replenish some much-needed stores. There is but little change in market since our last quotations. Beekeepers who did not have an established market for their honey, and for some time feared that they would not be able to dispose of their crop, are now finding ready sale, and most of them are pretty well sold out. We quote No. 1, bulk, in two 60-lb. cans, 10 and 10½; No. 2 ditto, 8 to 9, or light amber. Light-amber, in cans, brings 6 to 8. Clean average yellow beeswax brings 27 to 28.

Texas, Oct. 19.

J. A. SIMMONS.

PITTSBURGH.—Receipts are liberal, demand fair, and with continued heavy receipts any change will be lower. Extra fancy, per case, brings \$4.25; fancy, \$3.75; No. 1, \$3.25; buckwheat, \$3.00 to \$3.25. Pittsburgh, Oct. 25.

W. E. OSBORN CO.

CHICAGO.—Prices are ranging from 15 cts. to 16 cts. per lb. for the fancy to extra fancy, and 14 to 15 cts. per lb. for the No. 1 grade. Amber grades from 1 to 3 cts. per lb. less. Extracted—the best grades of white are bringing 8 cts. per lb., light ambers about 7 cts. per lb., and the dark ambers at 5 to 6 cts. per lb. Beeswax 30 to 32 cts. per lb.

Chicago, Ill., Oct. 18.

R. A. BURNETT & CO.

ST. LOUIS.—Prices are unchanged since our last quotation. The demand for extracted honey is good, and comb honey is moving fairly well, with prospects of a better demand soon. Our market is not overstocked, but supplies are ample for the demand. We quote extra fancy, per case, \$3.75; fancy, \$3.50; No. 1, \$3.00 to \$3.25; No. 2, \$2.50 to \$2.75. White extracted honey brings 9; light amber, in cans, 7½ to 8; amber, in cans, 6½ to 7; in barrels, 5½ to 6. Clean, average yellow beeswax brings 28½.

R. HARTMANN PRODUCE CO.

St. Louis, Oct. 25.

PHILADELPHIA.—There is no special change in our market since last quotations. Market is in good shape for shipments of new honey. We have an outlet for fancy stock; can also move under grades at the right price. Let us know what you have. We quote extra fancy comb honey, per pound, 15 to 16; fancy, 14 to 15; No. 1, 12 to 13; No. 2, 9 to 10. White extracted honey brings 8 to 8½; light amber, in cans, 6 to 6½; amber, 5½ to 6. Clean average yellow beeswax brings 28 to 30.

Philadelphia, Oct. 25.

CHAS. MUNDER.

BOSTON.—Demand for honey is good. Fancy comb brings \$3.75 per 20 frames; No. 1, \$3.25 to \$3.50; No. 2, \$2.25 to \$2.50. Extracted white, 60-lb. cans, eastern, brings 9½ to 12.

Boston, Oct. 24.

BLAKE, LEE CO.

NEW YORK.—Nothing new to report. Conditions continue the same.

HILBRETH & SEGELKEN.

New York, Oct. 25.

HAMILTON.—Demand is good; quality is the best we have had in years. We quote extra fancy, per case, \$2.50; No. 1, \$2.25; No. 2, \$1.70; white extracted in 60-lb. tins, 12; light amber in cans, 10.

McNab Street Branch, F. W. FEARMAN CO., Ltd.

Hamilton, Ont., Oct. 24.

TORONTO.—The situation since our last report of October 10 is unchanged, and prices ruling are the same as before. We quote white extracted, in 60-lb. tins, 12½.

EBY-BLAIN, Ltd.

Toronto, Oct. 24.

LIVERPOOL.—We quote for salable parcels on this market as follows: Owing to very large arrivals of Chilean the market is quiet. Recent values on the basis of pile 3 are \$8.80, CIF; Hayti white is worth \$11.04 ex store. Californian in cases brings \$11.52 to \$14.40 per cwt. ex store, as in quality. Chilean beeswax brings \$34.25 per cwt.; Oto, \$39.00.

Liverpool, Oct. 9.

TAYLOR & CO.

MATANZAS.—Light amber extracted in barrels brings 46 cts.; amber, 46 cts.

Matanzas, Cuba, Oct. 15.

ADOLFO MARZOL.

MEDINA.—Somewhat contrary to our opinion, comb-honey offers have appeared from the West in greater numbers the past two weeks than usual at this time of the year, and the tendency in some localities is toward lower prices. We confidently expect, however, a stronger market soon. Extracted honey is firm.

Medina, Oct. 25.

THE A. I. ROOT CO.

Home Markets for Honey

If you are developing a local market for your honey, you will be interested in the following from a Wisconsin producer, who writes regarding the 64-page book, "The Use of Honey in Cooking." He says:

"We received the honey-recipe books O. K. and were more than pleased with them as they were one of the finest boosts for getting honey before the people that we could have procured.

"The people were clamoring for them and our booth was one of the leading attractions at the fair.

"One of the members of the association who was putting out small glass containers sold one to a lady from Minneapolis, who was attending the fair here. This morning he received an order that she had taken among friends at home to ship 25 gallons of extracted honey to Minneapolis. So it pays to advertise, and your recipe books do the work." (Name on request.)

We offer these books, "The Use of Honey in Cooking, 64 pages, 115 tested honey recipes, with many facts regarding honey, at 10 cts. each, postpaid. In quantity lots with your advertisement on the back cover (no other address given in the book) as follows:

100 copies, printed as above....	\$ 4.50
250 copies, printed as above....	9.25
500 copies, printed as above....	17.25
1000 copies, printed as above....	25.00

If sent by mail, postage extra.

Order a quantity and watch your honey go.

The A. I. Root Company

Medina, Ohio

Are You Interested in Stars, Birds, Trees, Rocks, Plants, Pets

or anything else in the
Great Out-of-doors or Nature
Indoors?

Then subscribe to
The Guide to Nature

Send twenty-five cents for four-
months' trial subscription.

Address: ARCADIA, Sound Beach, Conn.

BANKING BY MAIL AT 4%

The World's Richest Man

began the foundation of his
fortune by Saving Money.

YOU can profitably follow
his example; while you may
not attain wealth, you will
at least be sure of financial
independence.

This bank invites your account
BY MAIL, assuring you of com-
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capital and surplus, conservative
management, and strict state
supervision, as well as 4 per
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order, or the currency by regis-
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One dollar opens an account.

THE SAVINGS DEPOSIT BANK CO. MEDINA, OHIO

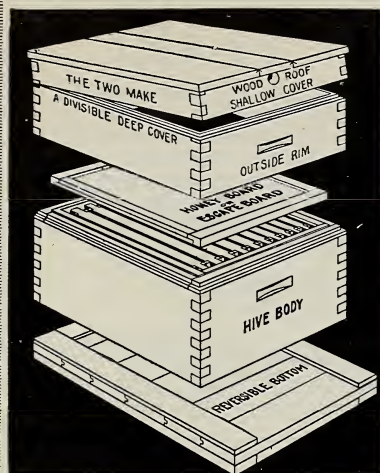
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E. R. ROOT, Vice-Pres.
E. B. SPITZER, Cashier

ASSETS OVER ONE MILLION DOLLARS

Bees, Fruit, and Poultry

An ideal combination for the small-place own-
er. Gleanings in Bee Culture, Green's Fruit
Grower, and American Poultry Advocate are
the highest authority on these three subjects.
Then why not take advantage of our low-price
clubbing offer of all three journals for one
year for only \$1.00? . . . Write today.

Gleanings in Bee Culture
Medina, Ohio



PROTECTION HIVES

Price: \$14.75 for five hives, delivered to any station in the U. S. east of the Mississippi and north of the Ohio River, or \$13.00 F. O. B. Grand Rapids, Mich. Prices will have to be advanced slightly January 1.

Air spaces or packing as you prefer. Seven-eighths material in the outer wall, which means that they will last a lifetime. Used and endorsed as the best hive on the market by many prominent beekeepers of this and other countries.

Norwichtown, Conn., May 24, 1915. (Extract from letter and order) Our State Agricultural College has just been voted a sum of money to be used in the construction of an apiarian building and outfit. They are negotiating with me for some colonies, and I will furnish them in your Protection Hives, for I believe them to be the best on the market.

ALLEN LATHAM.

Send for catalog and special circulars. We are the bee-hive people. Send us a list of your requirements for 1917 and let us figure with you. We want both large and small orders. We have many pleased customers in all parts of the country.

A. G. Woodman Co., Grand Rapids, Mich.

PENNSYLVANIA BEEKEEPERS

Our 1916 catalogs now out. Postal will bring you one. Root's goods at Root's prices. Prompt shipment.

E. M. Dunkel, Osceola Mills, Pa.

LOS ANGELES HONEY CO.

633 Central Bldg. . . Los Angeles, Cal.

Buyers and Sellers
of Honey and Wax

Write Us for Prices when in the Market

HONEY-JARS

No. 25 one-pound screw-cap, \$4.75 a gross. Discount on quantity. Light honey, clover flavor, two 60-lb. cans, 9 cts. per lb. Sage honey, 9 3/4 cts. Catalog of apiarian supplies and bees free.

I. J. STRINGHAM, 105 PARK PLACE, N. Y.
Apiaries: Glen Cove, L.I.



Established 1885

Send for our 64-page free catalog of Beekeepers' Supplies—full of information regarding bee fixtures, etc. Beeswax wanted for supplies or cash.

John Nebel & Son Supply Co., High Hill, Mo.
Montgomery County

BEE SUPPLIES Send your name for new 1916 catalog.
Dept. T, CLEMONS BEE SUPPLY CO.,
128 Grand Avenue, Kansas City, Mo.

BEESWAX WANTED

for manufacture into
"SUPERIOR FOUNDATION"
on shares (Weed process)

Our terms assure cheaper foundation
SUPERIOR HONEY CO., Ogden, Utah
Wanted: Extracted honey

3 Garden Tools in 1 The BARKER Weeder, Mulcher and Cultivator

The only garden tool that successfully, in one operation, kills weeds, and forms a complete soil mulch to hold moisture. "Best Weed Killer Ever Used." A boy with a Barker beats ten men with hoes. Has shovels for deeper cultivation. Self-adjusting. Costs little. Write for illustrated folder and special Factory-to-User offer.



Barker Mfg. Co.
Box 117 David City, Nebr.

CANDY

Bees sometimes starve with plenty of honey in the hive. Why not avoid this risk by placing a plate or two of candy on the frames when you pack for winter. It is a good life insurance. Send for circular also catalog of supplies.

H. H. Jepson, 182 Friend St., Boston, Mass.

PATENTS Practice in Patent Office and Courts
Patent Counsel of The A. I. Root Co.
Chas. J. Williamson, McLachlan Building
WASHINGTON, D. C.

HOW ABOUT NEXT YEAR?

The season of 1916, just closed, has been a most unusual one. Beekeepers who did not fortify themselves early in the season by securing their hives, sections, and other goods, and having their equipment ready for the bees, found when the honey season was upon them that they were up against the following conditions:

Everybody wanted bee goods, dealers had depleted stocks on account of the unusual demand, manufacturers were several weeks behind on orders, their factories were working overtime. Some beekeepers were delayed, some disappointed, some got their goods when it was too late.

Now, Mr. Beekeeper, What are You Going to do about Next Season? ? ?

Prospects for a big Bee and Honey Season next year were never better than they are right now. **PREPARE!** Order your goods this fall. Write us or our dealer nearest you for a list of new prices owing to advances in raw material.

If you are not on our mailing list, write us at once and we will send you a catalog containing name of the distributor nearest you, and in this way you will also be sure to receive a copy of our new 1917 catalog when it is issued.

Lewis Hives and Sections and all other goods are made from the best material and are scientifically manufactured.

OUR GUARANTEE.

We absolutely guarantee our goods to be perfectly manufactured of the best material for the purpose. On examination, if our goods are not as represented, we do not ask you to keep them. Return same at our expense, and we will refund your money, including any transportation charges you have paid. If you purchase our goods from one of our distributors, this same guarantee holds good, as we stand back of them.

G. B. Lewis Company, Watertown, Wisconsin, U. S. A.

Send for catalog giving name of distributor nearest you.

DON'T FUSS

With your old combs and cappings, but send them to us. We will render them into beeswax for you on shares and pay you cash for your share, or we will make it into

Dadant's Foundation

for you.

If you prefer, we will pay you our best trade price in exchange for BEE SUPPLIES.

Send for our terms. We feel sure that we can save you some money besides saving you a "mussy" job.

BEESWAX WANTED at all times.

Dadant & Sons, Hamilton, Illinois

GLEANINGS IN BEE CULTURE

Published by The A. I. Root Co., Medina, Ohio.

E. R. Root, Editor

A. I. Root, Editor Home Department

H. H. Root, Managing Editor

J. T. CALVERT, Business Manager

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VOL. XLIV.

NOVEMBER 1, 1916

NO. 21

EDITORIAL

GLEANINGS A MONTHLY AFTER JANUARY 1

WE have long cherished the hope of making GLEANINGS a monthly publication—one that might compare favorably with the standard magazines that now grace our tables. The time now seems auspicious for starting an improvement in this direction, and we feel sure that our readers, when they see what we are going to give them during the next year, will be delighted.

The first and foremost purpose of the change from a semi-monthly to a monthly is to give the editors of GLEANINGS the needed time to make a better and handsomer journal; for the financial fact is that the cost of the new monthly for a year will exceed the present yearly cost of the semi-monthly. While some economies will be effected in the amount of paper used and in mailing, this saving will be put into a better quality of paper, better printing, better engravings, better subject-matter, and a larger journal.

Practically all the magazines in the country are now either in the weekly or monthly class. There is no need of a weekly bee publication, and no good reason for continuing a semi-monthly if it stands in the way of an improved monthly publication of a higher class.

If, at the end of the year 1917, there should be a subscriber to GLEANINGS (now paid in advance for the next year) who feels that he has not had his full money's worth in the new and better monthly journal, we will then refund to him the amount of his subscription upon his request to do so.

A. I. Root will continue to give the readers of GLEANINGS nearly if not quite as much of his matter in the new monthly as in the present semi-monthly for two issues.

We are looking forward to a bigger and better GLEANINGS with enthusiasm, and hope and trust that every reader will share this enthusiasm with us.

Asters Yielding Better after Frost

OUR Mr. Mel Pritchard, who has charge of our queen-rearing yards at the bass-woods, reports that bees worked well this fall on asters, but while the flow was at no time heavy it was continuous.

When we asked him if the frosts had not pretty well cleaned them out—"Cleaned them out?" he said; "why, I have always noticed that the asters yield better after frost than before."

A few days ago we had a very severe frost—so severe that we naturally concluded that even the asters that would stand ordinary frost would go down with all other vegetation; but they did not. Even at this date, Oct. 21, the asters are looking well;

and if warm weather is coming on they will yield something yet, according to Mr. Pritchard.

Death of Prof. A. J. Cook

WE have known for some time that Dr. Cook, State Horticultural Commissioner of California, was in ill health; and we also knew that he was obliged to drop his work; but we were not aware that death was so near. We see by the *Western Honey Bee* for October that he died September 29 last.

Dear old Prof. Cook was one of the pioneers in modern beekeeping in this country in the early '70's and '80's. He was not only a prominent writer but one of the most

influential beekeepers in the country. A full sketch of his life will be given in our next issue.

Our Cover Picture

THE picture on the cover shows one of the big irrigation ditches in southern California that has transformed what was formerly one of the great American deserts into one of the most productive localities in the world. Imperial Valley now contains four million acres under cultivation, with two million more that will be made available as soon as some of these big ditches can be built thru them.

It is one of the most fertile spots in the United States. The soil is deep and rich, and irrigation has supplied the one thing lacking—water. As alfalfa is one of the main crops it follows that beekeeping is an important industry. Usually bees follow where irrigation is opened up.

Unfortunately there have been two poor seasons in Imperial Valley; and, unfortunately, it is already overstocked with bees and beekeepers; but when those two million acres are opened with some of these big ditches there will be more room for beekeepers.

Wintering Bees in Cheap Cases

AT our Strongsville yard, we have wintered bees very nicely by putting the hives about four inches apart in long rows, and crowding straw between the hives around them and on top. No straw was placed *in front* of the hives. Boards or roofing paper placed on top and at the back keep the packing dry. The plan answers very well in lieu of more expensive and (we may say) better winter cases.

The objection to it (and it is quite a serious one some open winters) is the drifting of the bees. The strongest colonies are apt to draw from the weaker. When the entrances are so close together, bees do not properly mark their locations. When the weather outside warms up, and the sun shines, and bees are out flying, they are apt to join the entrance of the strongest flyers. This makes the weak weaker and the strong stronger. We have observed the same tendency with the quadruple winter cases, but not to the same degree.

Size of Entrances During Winter

THIS question is frequently asked. According to Dr. Phillips they should be contracted down during chilly weather, and still more during very cold weather. When

we raised the question as to whether these smaller entrances will not clog up with dead bees he came back by saying that, if the packing was ample, bees would not die on the bottom and lie there; that the hive would be warm enough so that the others could carry the dead out and dump them in front.

It has been our practice to contract the entrances at our outyards, which we do not visit except at long intervals, to 6 by $\frac{1}{4}$ inch. Then once and sometimes twice during the winter we send a man to the yards to rake out any dead bees at the entrance passageways. While we have been wintering in these large winter cases with six inches of packing all around, and ten inches on top, we find a good many dead bees in the entrance passageways.

Are Your Bees Packed for Winter?

IT will not be many days hence in the northern states when there will be snow with cold and piercing weather. The question is often put, "Have you put your bees away for winter?" The cold raw winds in November sometimes do a colony more harm than zero weather later on. Dr. Phillips, of the Bureau of Entomology, reports that a high wind of moderate cold will cool off the interior of a hive more than a still air considerably below freezing. We have found the same thing true in our own yards. Colonies that are wintered outdoors, and are not packed, suffer considerably; and if there is any brood in the hive when the temperature suddenly drops, it may become chilled. Wherever it is practicable, colonies should be packed in the fall as early as possible. As long as any asters or other fall flowers are in bloom, bees that are to be placed indoors should be left out till all bloom is gone.

Right here, colonies packed outdoors in October, or, better yet, in September, will fare much better than those in single-walled hives, subject to frequent changes of temperature and high piercing winds—especially winds that blow up into the entrances.

Less and Not Less

THERE are fewer pages in this number of GLEANINGS than in former numbers, but not less reading matter. By restricting the advertising space as much as possible we are able to give GLEANINGS readers as much bee lore as usual in fewer pages. We do not expect this size of GLEANINGS to be permanent; but in the exigency of a very much overworked printing-plant we shall

contract advertising space and diminish the bulk of GLEANINGS, providing this can be done without injustice to our readers. So it happens that there is "less and not less" in GLEANINGS this number, and the same condition is likely to prevail in the next several numbers of our magazine.

Honey-market Conditions and Prices

THERE is not much new to report except that the market seems to be improving some. In some localities, it seems to be fully as high as last year. In other localities the price is a little easier. The reader is referred to our honey-market quotations in this and previous issues.

While in the extreme West the season was far below expectations, and while the yield was a low average in Colorado in the early part of the year, conditions improved later on. The shortage of honey in Montana, Idaho, California, and particularly in the Imperial Valley, was enough to pull down the general average of the West. Had there not been a large yield of honey in the East, particularly in the clover regions, prices would have materially stiffened over those of last year.

As is usual, beekeepers are making the mistake of shipping their honey late. Carloads of comb honey are yet to be sent by rail. The danger of breakage when the weather is cold or freezing, the danger of starting initial granulation, the danger of breaking the market when all of these shipments are unloaded at once, and unexpected, are things that cannot be and should not be overlooked. Buyers remembering past years' experience, particularly that of last year, become disgusted when these late shipments pour in when they should have come in soon after the crop was taken off the hives.

Importance of Windbreaks for Good Wintering

WE have already, in times past, spoken of the importance of windbreaks for protecting bees wintered outdoors. If we had to choose between windbreaks and single-walled hives or double-walled hives out in the open, we would unhesitatingly choose the former. We have learned here and about Medina that unless we have a screen of woods, hills, or farm buildings, we are likely to have some heavy losses, even tho the bees are packed in double-walled hives. Time and time again we have noticed that colonies that are exposed to a sweeping wind will suffer very much more than colo-

nies in the same yard that are protected by bushes, trees, buildings, or anything that shuts off piercing winds.

Those who are expecting to winter their bees outdoors should not forget the importance of a good location for the beeyard. A windbreak is almost as important in early spring and late fall as during winter. In the spring, colonies well protected will fly out to gather some pollen or nectar, while those exposed to high winds will not venture out. We have seen many instances of this in several of our yards. One year in particular the bees of the out-apiary on the side hill, screened on the north, would work on apple-bloom while those on top of the bluff, exposed to the winds, stayed indoors. Those protected built up faster than those exposed.

Quadruple Winter Cases vs. Cellars

THERE seems to be quite a strong movement in Canada toward wintering colonies in quadruple winter cases with a liberal amount of packing rather than to put the bees in a cellar. It is claimed that the outdoor bees are ready for a harvest before those wintered in a cellar. This is because bees outdoors start brood-rearing earlier; and early breeding is important providing the brood-nest is well protected by packing.

The time was when cellar wintering in Canada was almost universal. While there are some who still prefer to winter indoors, the beemen of Canada now seem to be working over toward the outdoor plan.

What is good for Canada may be equally good for those of us who are located south of the Great Lakes. While cellar wintering has never been practiced to any great extent in most localities in Ohio, Indiana, Illinois, yet the tendency today is more and more toward the outdoor plan. The ideal beecellars are few and far between. If the temperature in a cellar can be uniform at about 45 or 50, and the atmosphere pure, bees will winter well; but if the temperature is variable, going down to freezing and at other times going up to 60 or 70, as it does in many cellars, the bees will become uneasy, and half or two-thirds of them will have dysentery before spring. On the other hand, when bees are well housed outdoors, variations in temperature do not affect them so adversely. Even if they do start brood-rearing, the very fact that they are able to get a flight every now and then enables them to keep themselves clean. If cellared bees become uneasy, they will worry themselves to death or contract dysentery.

The fact that the tendency is toward

outdoor wintering in very cold climates as well as in the milder climates is rather interesting, going to show that beginners and sometimes experienced beekeepers will do well to follow the example of the large producer.

How Far South Should Winter Packing be Used?

FOR the last thirty years it has not been considered necessary to use double-walled hives or winter packing for colonies located on or below the Ohio River. Dr. Phillips, of the Bureau of Entomology, made the remark this summer that the winter experiments conducted by the Bureau had led him to believe that some beekeepers in the South might with profit use winter packing. From some experiments with our Virginia bees, it is apparent that colonies that were packed were in better condition than the same-sized colonies in single-walled hives.

When we say "packed" we do not mean that the colonies must be in factory-made double-walled hives. Bees can be packed in straw or leaves, with a roof of boards or roofing paper, very cheaply.

If there is any advantage in packing colonies early in October and November in the northern states, would there not be some gain in protecting bees in the Southland where the temperature goes down to freezing and below, and where it is chilly and damp off and on for at least two or three months? While it is true that bees *can* fly in many of these localities every day, that very flying wears them out, and if they are not taken care of properly they will soon die. In a warmly packed hive, on the other hand, they will consume less stores and the brood will be protected when chilly bad weather comes on.

We are well aware that some of our friends in the South will poke fun both at us and Dr. Phillips; but if they will try out winter packing they may find occasion to change their minds.

Spraying vs. Beekeeping

PROBABLY we may look for an ever increasing array of parasites and diseases, not only on our fruit-trees but on the shade-trees. The forces in nature that tend to tear down are always on the increase, and constant vigilance is necessary to combat them. This means that the beekeeper must realize that spraying of shade-trees as well as of fruit-trees is bound to increase, and the probabilities are that bee-poisoning resulting from spraying is likely to become

some day a serious matter in many localities just as it is now in a few localities.

Dr. Burton N. Gates, in charge of apiculture at the Massachusetts Agricultural College, and state inspector of bees for Massachusetts, has made a compilation of the known instances of alleged poisoning, with some recommendations for relief, in a bulletin on the subject, No. 10A, under the Massachusetts State Board of Agriculture. We believe this is the best and most authoritative statement on the spraying situation that has yet appeared.

Dr. Gates gives numerous instances of poisoning that have come under his own observation, and also takes from GLEANINGS and other bee-journals similar reports from other states. A report from West Newton, under date of June 16, 1915, is as follows: "Each morning there are many bees, sometimes 200 or more, on the ground, unable to fly, but trembling around until they die." Another from Middleboro: "The bees come home with white lead on their backs. In the morning you can see a quart of bees on the ground in front of their hives."

The poison is not only in the nectar, but in the pollen. Some peculiar features of the situation, as pointed out on page 18, is that certain colonies in an apiary may be affected, while others, apparently, are not. One beekeeper reporting for his locality says perhaps one apiary in ten is doing well.

The remedial measures mentioned on pages 18 and 19 are as follows:

"1. Legislation, which shall control spraying practices, overcome the spraying of blossoming trees, license contracting spraymen, and limit the indiscriminate, injudicious, and unnecessary use of poisons; the correction of mistaken state and municipal spraying practices.

"2. Educational campaign, which shall correctly inform users of spray poisons and reveal the errors and fallacies in current spraying practices; which shall promote the welfare of beekeepers.

"3. Co-operation of the manufacturer and distributor of spraying materials, compounds, and apparatus might be enlisted, to the end of furthering the educational campaign for sane spraying practices and the protection of bees.

"4. Development of spraying compounds which shall be repellant to bees. This, at the writer's suggestion several years ago, attracted the attention of scientists. It is hoped that benefits will result, yet it must be remembered that such experimentation is necessarily of slow progress."

Dr. C. C. Miller

STRAY STRAWS

Marengo, Ill.



The British Bee Journal, p. 256, suggests as a proper wholesale price for honey of first quality, 24 cents per section, and 16 to 17 cents a pound for extracted. Doesn't that compensate for the smaller yield they get in England?

J. L. BYER considers ridiculous the large entrance advocated by many, p. 909. Now that's ridiculous of you, J. L., to talk that way without telling what harm comes from it. I don't know whether you would class my entrance of 24 square inches as too large; but, honest Injun, wouldn't you rather have that than the $1\frac{1}{2}$ square inches you tell about?

M. S. PHILLIPS says if you want to find out whether a nucleus has a virgin, don't give it unsealed brood, for then it will kill the virgin and start cells. Take a frame of *sealed* brood, pin on the middle a *sealed* queen-cell, and put it in the middle of the brood-nest. If any kind of queen is present, you will find the cell destroyed in a few hours. This looks like a valuable hint. [Yes; but if one doesn't have a sealed queen-cell what is he to do?—Ed.]

JAMES A. STONE says he has no trouble in cleaning out the groove when combs have been cut out of a frame with groove and wedge in top-bar. Take an old-time three-pronged table-fork; cut one of the outside prongs off about $\frac{1}{4}$ -inch; turn both outside prongs up like sled-runners, then you can plow the comb or whatever is in the groove clean out; remove the wedge and place it in the groove to push the tongue back, and let it remain a few minutes, when you can insert the foundation as easily as at first.

"In supering, it is rare that a season is so favorable that lifting supers and placing empties beneath is advisable," says Wesley Foster, Sept. 1, p. 781. Locality, again? If there were no other objection, here, to giving supers above only, a sufficient objection is that such supers may have sealed sections in center with raw foundation surrounding, while, placed, below, all but the corner sections will be sealed alike. In a big flow here, if we don't find it advisable to add an empty *both* above and below, we think there's something wrong with the colony.

A DUMMY in order to get the first frame out of a hive more easily I earnestly advocated for years. A few months ago I went to figuring on it, and it wasn't long before I was convinced I had been wrong. With a dummy the outside layer of bees was less

than any of the inside layers, and surely the outside comb needed the greater protection. The outside comb sometimes had less brood than the others; with more bees to keep it warm, that might be bettered. I decided to test the matter fully, and, against the earnest protest of my assistant, left dummies out of a third of my hives during the season of 1916. For some reason the bees couldn't see the force of my figures and arguments. There was no increase in brood in outside combs. Unless extra time was taken to shove all the frames to the opposite side, taking out the first frame had to be done slowly to avoid killing bees—possibly a queen—and the bees were stirred up by it so it was hard to find the queen. When the frames were returned it took extra time to equalize the space at each side. Brace-combs made some trouble. Leave dummies out if you want to, but never again for me.

A. I. ROOT, you show good taste in liking milk out of the refrigerator with oatmeal and honey. I think I take a little more comfort by having in the evening *hot* milk with extracted clover honey, sometimes having in it bread made from whole-wheat flour that I ground myself. [My good friend, the above makes me glad several times. First, I am glad to know that you, like myself, are prolonging your life, probably because of simple living—milk and honey. In regard to the hot milk, whenever my digestion gets a little out of shape, say by being tempted to eat between meals or something like that, I too use hot milk. Sometimes I say to Mrs. Root, "Please let me have scalded milk, and have it hot, instead of cold milk, until I give further notice." The hot milk with toast soon gets me right again. And then, again, I am glad once more to find that you are cutting out a great lot of middlemen by making your whole-wheat flour yourself, and getting better flour than you can probably buy, even if you pay a big price for it in paper packages. By the way, doctor, I am going to feel awful lonesome if you die before I do; so please do not die just yet. A few days ago I had occasion to look over your book where it tells about how cheaply you lived on wheat away back in your schooldays. May God be praised that you are still with us, not only to live on wheat (and grind it *yourself*), but because you are able to give wise counsel to a great lot of "kids" who sadly need it.

P. S.—Say, doctor, do you still sing that grand old hymn, "The Rock that is higher than I"?—A. I. R.]

BEEKEEPING AMONG THE ROCKIES

Wesley Foster, Boulder, Colorado



THE HONEY MARKET.

Local retailers are selling comb honey at 10 to 20 cts. per section. The higher price is secured for the fancy and No. 1 grades, and the lower price for the cull honey, of which the beekeepers have quite a supply that is dumped upon the local market. The culls bring from \$1.50 to \$2.25 per case, according to weight and amount of finish, the weight running from nine ounces up. The average weight is probably fifteen to seventeen pounds per case, with the weight of the case subtracted.

There is a growing demand for comb honey in bulk, and some beekeepers are disposing of their cull comb honey in that form. The 5-lb. and 10-lb. pails, and 5-gallon cans are the favorite packages. This bulk comb honey brings 10 to 11 cents per pound according to package in which it is packed.

The market on extracted honey is good, and the price is higher than one year ago. Alfalfa extracted honey brings 7 cents in small lots, and a little less where a carload is taken. This is the price paid producers. At some points where freight rates are high, sales have been made on the basis of 6 to 6½ cents per lb. The extracted honey is very fine in color and body this year, and the flavor is all that can be desired in alfalfa and sweet-clover honey.

The comb-honey market has been rather slow, and sales have not been made as rapidly as the honey was prepared for shipment by the beekeepers. Western-slope comb honey has been sold for \$2.20 and \$2.40 per case. Cars of eastern-slope honey have brought from \$2.75 to \$3.00 for the fancy grade so far.

Honey-crop conditions have improved in Colorado during the late flow, as this has been good in some parts of the state that had a poor summer honey-flow. During September considerable honey was stored in supers in the Arkansas Valley and portions of the western slope in Colorado. The comb-honey crop has not been sold; but considering the crop in the East, sales have been better than could be ordinarily expected. The middle West has taken large amounts of honey, cities of 15,000 population taking comb honey in car lots. Of course, some of this honey is distributed in surrounding territory; but the fact that honey has not increased in price as have other foods has made a great difference in demand.

The local sales of honey have been much larger than common, partially owing to the very large tourist trade. Parties visiting Colorado by auto from states to the east and south have bought honey freely to take home with them. Our county produced at least fifteen cars of honey, and half or more of it has been shipped out, and there is not to exceed five cars left at this date, Oct. 11.

WHY RETAIL AT SO LOW A PRICE?

Beekeepers are doing this more and more, and the practice is to be encouraged; but many beekeepers do not consider that it is advisable to charge a price high enough so that one can get paid for the additional work necessary. One beekeeper has been putting extracted honey up in 10-lb. friction-top pails, hauling it by auto for a hundred miles, and peddling it out from house to house at 75 cents per pail.

Another beekeeper advertises in his local paper to sell extracted honey at five cents a pound.

Now, this first beekeeper who is selling extracted honey at retail at 75 cts. for 10 lbs., has nice honey, and I have sold and am selling in the same territory cases of six 10-lb. pails to the grocers at \$7.50; and wholesale grocers are charging the retail grocers about \$8.00 for six 10-pound pails. It is not necessary, nor good business, to retail honey at less than carlot prices.

The retail grocers are the ones who sell the bulk of our honey crop; and if it were not for them we should have a hard time selling our crop. If we retail honey, and compete with them, let us hold up the price any way; and when we sell to retailers, sell at a price sufficient to give a fair profit to them and ourselves also.

Suppose extracted honey is worth 7 cents wholesale in 60-lb. cans. When retailed in smaller packages it ought to bring not less than the following prices:

Six 10-lb. pails, \$7.00; one for \$1.60; 12 5-lb. pails, \$7.40; one for 90 cts.; 24 2½-lb. cans, \$8.00; one for 35 cts.; 12 pints (glass), \$2.40; one for 25 cts.

Some Colorado dealers are selling for more than these prices, and a few for less.

Colonies slow about entering the supers, and strong on clustering out, may be driven into the supers by raising the hive from the bottom-board with small blocks. This cools off the lower part of the hive, gives ventilation, and forces the bees to seek the warmer part of the hive to store honey and build comb.

BEEKEEPING IN CALIFORNIA

P. C. Chadwick, Redlands, Cal.



CONNIVINGS OF HONEY-BUYERS.

In the *Western Honey Bee* for October appears what purports to be a confidential conversation with a buyer representing a Los Angeles firm. The conversation was given to show how the buyers connived to fix the price on honey for the season, and to describe the method used. Let me quote: "As the honey season advances, and some honey begins to be reported in the apiaries, our firm, or one of the others, selects a certain beekeeper, not one of the large producers, but one who usually has from two to five tons to sell, and always one who *has* to sell." Continuing, the writer says the buyer drives the sharpest bargain possible, and in twenty-four hours every buyer on the coast knows of the sale and the price paid, thus establishing a precedent. I will not comment on the plausibility of the story, or how such confidential matter has found its way into print; but it seems to me the buyer, instead of going to all of this trouble, could find a better lead by using one of their contracts in which the beekeeper contracts a crop that is only in prospect, at a figure too small to display good judgment. I know of at least two beekeepers who contracted their honey this year, before one drop of it was gathered, at 5 cts. a pound. The first offers for the 1916 crop were around six cents. Who was to blame?

THAT FULL-PAGE HONEY AD.

When I saw the full-page "Airline" ad. in the *Ladies' Home Journal* for October, I meditated over its influence on the readers, millions of them. It occurred to me that we get just about what we pay for. Here is an advertisement that surpasses anything of its kind that has ever been undertaken. Such extensive advertising will bring results; and while the advertisers will reap a benefit, a demand will be created for honey thru such advertising that will find its way to the producer for a supply to fill the demand. The entire beekeeping fraternity will be benefited directly or indirectly, while the bill will be paid by one firm. But, as I was saying, we get just what we pay for; so if we pay one and a half dollars into an association we shall not get to exceed that amount in return. If it were possible for beekeepers to form an organization that could establish a brand and keep a stock on hand to fill a demand created by extensive advertising, such as the one just mentioned, we would get returns in propor-

tion. But that will never be done by the beekeepers, for they will furnish neither cash nor honey for such an enterprise. So let us take off our hats to "Airline" and wish it all the success possible, for I predict it will be one of the greatest factors in the honey market of the country in a few years. In it there is offered a continual supply, of a definite color and average flavor, which, in time, will make it a table watchword.

SHALL WE SAVE THE LAYING-WORKER COLONIES?

On pages 865, Sept. 15, Mr. E. S. Miles advises saving layer-worker colonies. Like Dr. Miller, I believe the best cure is to break up the colony. To my mind it is impractical to save such a colony. We may add brood and bees, eventually getting a queen to laying, but this is done at the expense of other colonies, and virtually amounts to building a new colony. The best way I know to relieve a laying-worker condition is to give such a colony a frame of brood containing eggs, then exchange stands with a strong colony. The bees from the strong colony will soon put an end to the laying workers, and raise a queen.

This fall I had about fifteen colonies that went queenless by not having close enough attention after extensive requeening operations. There was a good supply of bees; but all except two had degenerated into laying-worker colonies. It was to my advantage to save them at this time of the year if possible. Ordinarily I would have doubled them up with other colonies; but as it happened this time I had a number of two or three frame nucleus colonies, containing a queen and a small amount of bees that could not possibly winter without the addition of brood. In trying to introduce the queens into the laying-worker colonies by the bee method I found the supply of bees was too small to protect the queen, so I lost several queens where the entire nuclei were set into the laying-worker colony. I finally succeeded by taking the laying-worker colony off a distance and shaking the bees off the combs on to the ground. I then set my nucleus into the fertile-worker hive which was given the place of a strong colony, while the strong colony was given the place of the laying-worker colony. The results were entirely satisfactory, and, thanks to the bluecurl flow that followed for three or four weeks, all came up to winter with a good force of bees. But in this process I do not figure that I saved the laying-worker colonies.

NOTES FROM CANADA

J. L. Byer, Markham, Ont.



THE HONEY MARKET.

The honey market in Ontario is still better than when I wrote for the October issue. The big crop seems to have disappeared, and at this early date, October 13, I find it impossible to buy any honey at a price that would let me out, unless I sold it locally at a figure higher than I obtained for my own crop. High prices of other food products, good wages among the masses, and an unusually fine quality of honey, seem to be the factors that have brought about such conditions. At any rate, contrary to the usual state of affairs, the late market will this year be just as good as or better than the early, and I have not the least fear but that all the honey will be cleaned up before next year's crop comes on the market; in fact, I have my doubts as to much of the crop being available in a wholesale way after the first of the year.

WHY WE FEED SUGAR.

On page 932, Oct. 1, A. C. Miller chaffs Mr. Crane for admitting that he has fed "tons and tons of sugar syrup," and incidentally claims that such practice is not necessary if "improved methods" are used. Being in the same boat, so to speak, as Mr. Crane, so far as the feeding question is concerned, we naturally would welcome some good plan that would help us to do away with the feeding problem, and at the same time give us good results in wintering. With this desire in my mind, let me briefly outline conditions as we find them here in our home district. Our main flow is from alsike clover; and at the conclusion of that flow, in about four years out of five we find brood-nests with but little honey in them, the most of the combs being filled with brood. After taking off the clover honey, super combs are returned to the hives, if for no other reason than to protect them from the moths; for with thousands of such combs it surely is a job to keep them from being ruined if not given to the bees to be cared for. About Aug. 1 our buckwheat flow starts; and while one super would as a rule take care of all the surplus we get from that source in our district, yet we hesitate to reduce them to that number by reason of the moth nuisance as before outlined. Even with two or more supers on a hive, with hives as large as the ten-frame Jumbo, sufficient honey will go into brood-nests at this time for winter stores *if the flow is not heavy*. With a hive of the eight-frame L. capacity run for extracted honey,

feeding will nearly always be necessary. With a good flow from buckwheat—say 40 to 60 pounds in our locality—even the Jumbo hives will need feeding after supers are off.

This year has been an exception to much of the foregoing; for during the last ten days of our clover flow, which lasted longer than usual, queens, whether young or old, let up in brood-rearing, and the majority of the hives were jammed with clover honey, even when abundant super room was still present. With a very light buckwheat flow, brood-rearing was not increased to the same extent as in other years, and this clover honey was left in the brood-nests so that little feeding is necessary. This is one year out of the five referred to, and in no way clears up the question as to what to do to avoid feeding in the other four years.

Would Mr. Miller advise keeping sealed combs of clover honey when honey is the price it is here in Ontario? In some seasons the keeping of such honey would mean the whole crop. Would he take off the supers during the buckwheat flow? and if so, what would he do with, say, some 15 or 20 thousand such combs, in order to protect them from the moths? In any locality where there is a fall flow as late as the middle of September the feeding problem is solved at once; for, no matter whether supers are on hives or not, honey coming in at that date will, to a great extent, go into brood-nests, as queens always slack up brood-rearing at that season. We have learned this much by establishing the yard up north, as there we have aster and golden-rod in September, and feeding is never such a big job as we often run up against here in York Co., where August sees the last of our honey-flow.

THE CONDITION OF THE CLOVERS.

Since sending in my last batch of Notes, refreshing showers have visited many sections of Ontario, and once more the grass is looking green. But conditions as to the crop of clover for next year have changed but little, as alsike grown for seed is our main source of honey here in York Co.; and the long-continued drouth, coupled with the extreme heat of late July and early August, played havoc with the freshly seeded areas, and the acreage of alsike for next year will be very small. Judging by conditions at our north yard in Simcoe Co., where more white clover grows than here in our home section, the white clover seems to have stood the drouth better than expected.

Grace Allen

THE DIXIE BEE

Nashville, Tenn.



The Tennessee State Fair came very near having the State Guard as the main attraction this year, for we had two regiments camped on the fairgrounds nearly all summer. Thousands of visitors went out there every week, especially on Sundays, when the soldiers were reviewed and paraded around the race-track, with regimental bands playing, flags flying, lots of saluting, and a general thrilly, military atmosphere. One of the Drane brothers, of Memphis, and Mr. Wyant (beekeeping soldiers all) took us down into a wonderful trench built out on the grounds by Company B, 1st Regiment. The bomb-proof part was cosy enough to play house in; but one turns sick thinking of trenches these days. They also escorted us to, *not into*, the barb-wire entanglements beyond. Orders from Washington sent the troops down to the border just two or three days before the fair opened. The bee and honey exhibits were in the building formerly containing the guard-house where the prisoners were kept.

While there were not many exhibitors, there were some right good-looking and interesting exhibits. Of course people passing by are always attracted by the live bees, and eager to find the queen (or, about as often, the king). Mr. Buchanan's "Home, Sweet Home," made by a clever arrangement of comb honey in sections and full-size frames, made quite a hit.

* * *

From Forsythe County, North Carolina, come reports of very poor crops this year. Some yards yielded no surplus at all, others averaging twenty or thirty pounds. "Weak colonies," one correspondent writes, "have died and hunger-swarmed practically all the year. A light flow is now coming in from several plants of the *Composite* family. Unless aster yields well, our winter loss will be 50 per cent." Judging from present conditions here in Tennessee, I suspect aster has come nobly to the rescue.

* * *

THE GREAT VARIATIONS IN TEMPERATURE.

It seems to me as tho these fall months, with their wide variation between the maximum and minimum daily temperature, must be rather hard on the bees. They have not yet formed into compact winter cluster, and to a great extent even have eggs and young brood, so they are maintaining high temperatures in the brood-nest, around 93 and 95 degrees, as I understand. In the daytime

it gets warm enough so they are flying, working on aster and goldenrod or some other fall flow, then at night down drops the outer temperature so low that it surely must require a considerable expenditure of energy to maintain the necessary warmth. One day in September I noticed the temperature in places in Utah, Montana, and British Columbia, varying 34 degrees between maximum and minimum, and one report from Colorado showed a variation of 36 degrees, from 74 down to 38. Even Nashville that day slid from 73 to 50, a difference of 23 degrees. And none of these are anything rare or unusual. In the summer there is a daily variation, yet it is always fairly warm. In the winter there is a variation, yet it is always fairly cold; but in these transitional months it seesaws up and down from summer temperature to winter temperature in a way that would seem to be rather disconcerting to the bees.

* * *

Mr. J. F. Archdekin, urging co-operation for beekeepers, especially in the matter of selling honey, says, page 658, "Co-operation has always been a distinguishing feature of the human race." And so it has, in limited times and places. But it is certain that, so far as we know, co-operation has *always* been a distinguishing feature of the hive. And some day (slowly, perhaps, but surely) beekeepers are going to show themselves as capable of intelligent co-operation as the bees with which they work.

Of course the reason a great many beekeepers seem indifferent to such suggestions is the simple fact that the marketing of their crop has not yet become a problem for them. They have good local markets and not much competition, and so do not feel the necessity of working hand in hand with other producers.

* * *

Instinct.

I wonder when these bees of ours
Learned the things they know.
Some countless ages back perhaps?
Or just some weeks ago?

I wonder where they learned them all.
In far-off, ancient dells
Of fig and olive? Or right here
Within their waxen cells?

I wonder, yet I cannot tell,
As back and forth they go,
When or where or how they learned—
I only know they know.

CONVERSATIONS WITH DOOLITTLE

At Borodino, New York.



DISTURBING BEES IN WINTER.

A correspondent writes that it will soon be time for the bees to go into winter quarters, and wishes to know if it will do any harm for him to look at them occasionally during their winter nap. He says an old beekeeper told him that he examined the bees at all times of the year, and in all kinds of weather, and that it did no harm.

I am well aware from past experience how any one having a bad case of the "bee fever" can be amused by looking at them during winter; but from that same past experience I think it far better to amuse ourselves in some other way. During the spring and summer, when the bees are able to fly, a little disturbance is not injurious, and at certain times a manipulation of the hives and combs may be made very profitable, especially if it can be done when there are no robber bees prowling about to pounce upon their stores. If the apiarist is thoroly informed on the condition of each colony of bees as to their needs he can better supply them, in time to be of the most service. But in cold weather the novice cannot be too much warned against the ill effects of a disturbance of colonies, whether they are in the cellar or in the open air. Bees at such times are closely clustered together in as compact a shape as the combs allow.

If a hive is carefully opened it will be noticed that the bees' heads, so far as may be, are all turned toward the center, and that they move but little, all their efforts seemingly tending to gain access to the warmest spot. If outdoors the disturbance causes them to "break the cluster" to ascertain and drive off the danger. If the weather is around the zero mark many will become numb, and perish before the cluster can be properly formed again. If in the cellar, the disturbance may cause more trouble, as the bees will become more alert to drive off intruders, and many fly out and get lost on the cellar bottom. And if the disturbance is long continued, the bees will fill themselves with honey, and in turn feed the queen, which will result in premature breeding, bee diarrhea, and death. Thus quietude is almost indispensable.

If the novice must satisfy his curiosity he must do it at the peril of the bees. If food for each colony has not been supplied before the bees go into winter quarters, it is a difficult thing to supply this now without risk. The proper time to feed is as soon as the last flowers which give a sur-

plus have gone out of bloom—during the last half of September and the first half of October, here in the northern states. Then frequent disturbance causes the bees to become fearful that they may be driven from their stores, consequently they fill themselves with honey to overloading, and then, when the disturbance ceases, they unload it back into the cells again. But this filling with honey and putting it back in the cells brings on an excitement which has caused them to consume more than they otherwise would, and there is consequently overloading of the intestines. And as bees are so cleanly that they will not discharge the feces in the hive unless they are positively obliged to, their anxiety for a chance to get into the open air causes them to break the cluster and raise the temperature in the hive to summer heat, which makes brood-rearing almost a necessity, even in mid-winter, the result of which is a worn-out vitality, which gives what is called "spring dwindling," so that the old bees nearly all perish before the bees emerging from the brood become plentiful and strong enough to build up.

There are times in winter when it will well pay to look after the bees that are on their summer stands. It is when a warm day comes, in which the temperature rises to from 45 to 60 degrees in the shade, with no wind, or nothing stronger than a breeze. If the hives are surrounded with snow, it should be shoveled away and the entrances to the hive cleared of dead bees so that the bees can have a flight and empty themselves of their feces. Some even recommend that, if the bees are slow about coming out, or if the hive is in the shade, the hive be pounded on gently, so that the bees may become aware of the warm atmosphere outside. But I have found more trouble from the bees coming out and becoming chilled on the snow with the mercury standing at from 35 to 40 degrees in the shade, when the sun is shining brightly, than in their staying inactive when it was warm enough for them to fly safely. At times when bees come out and are lost on the snow it is best to shade the entrances by setting up a board in front of each hive, or by sweeping snow against the front.

If any colonies are known to be lacking in stores, such warm days in winter are just the time to supply them by putting in the number of combs of sealed honey which will be required. This is far better than to try to feed syrup or honey in cold weather.

GENERAL CORRESPONDENCE

AS GLIMPSED THROUGH THE CAMERA

A New Wrinkle in Wax Rendering

BY H. H. ROOT

In rendering wax with what is often called the unheated press the idea suggested itself to me of introducing a small jet of steam into the can holding the water and wax and the refuse under pressure somewhat after the scheme described by E. F. Atwater, p. 138, March 1, 1909, but I decided that it would not be feasible without access to a good head of steam from a large boiler. Later on I thought of it again, and, as before, finally came to the conclusion

the vertical cleats around the side of the can and extends over toward the center between two of the horizontal cleats.

I dipped a couple of gallons of melted comb and water into the press, and immediately I heard a great gurgling and sputtering as the hot water and wax surrounded the end of the pipe from which steam was blowing. While the pressure was being applied the water and wax kept up a gentle boiling—an ideal condition. This was some-

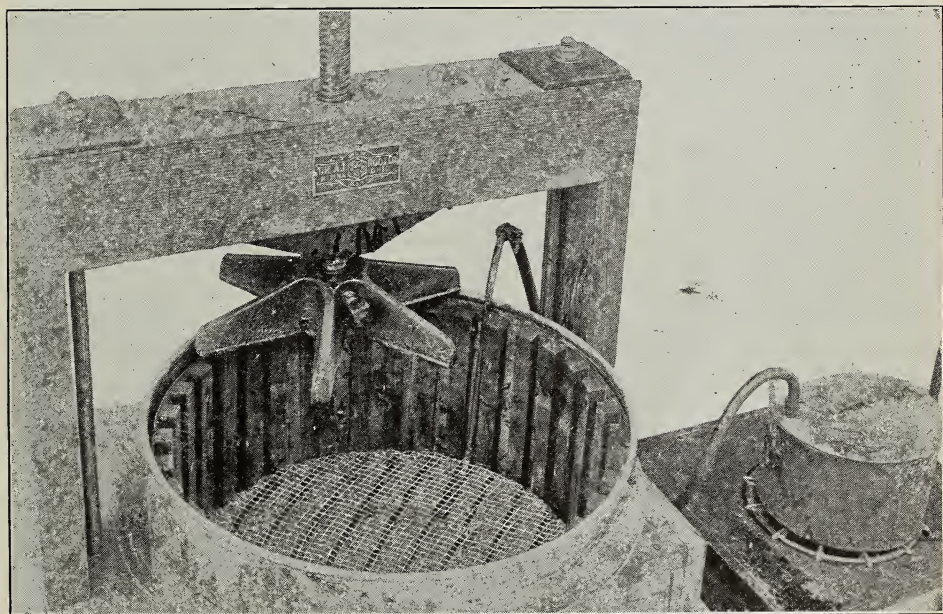


FIG. 1.—Steam from a small boiler introduced between the slats in a wax-press can. The water and wax keep up a continual slow boiling, insuring constant circulation.

that, even if it did work, having an extra stove around to bother with would hardly pay for any advantage that the plan might present. One day, however, I resolved to try it, still having but little faith.

I took a steam-knife outfit, disconnected the knife, and put on the end of the hose a piece of $\frac{1}{4}$ -inch copper tubing, about 14 inches long, with a right-angle bend 5 or 6 inches from the bottom, and a long curve at the other end. This I applied to the wax-press can, as shown in Fig. 1. As will be noted, the pipe goes down between two of

thing I had not thought of, my idea having been only to prevent the water and wax from chilling. The gentle circulation of the contents of the can is really the principal point of advantage; for, no matter how long the pressure is kept on the slumgum, nor how many times the screw is raised to allow the hot water to saturate the refuse again, the water keeps up this gentle boiling, so to speak, and the wax on top shows no tendency at all to cool off. The introduction of the steam adds so much to the efficiency of the method that I think there

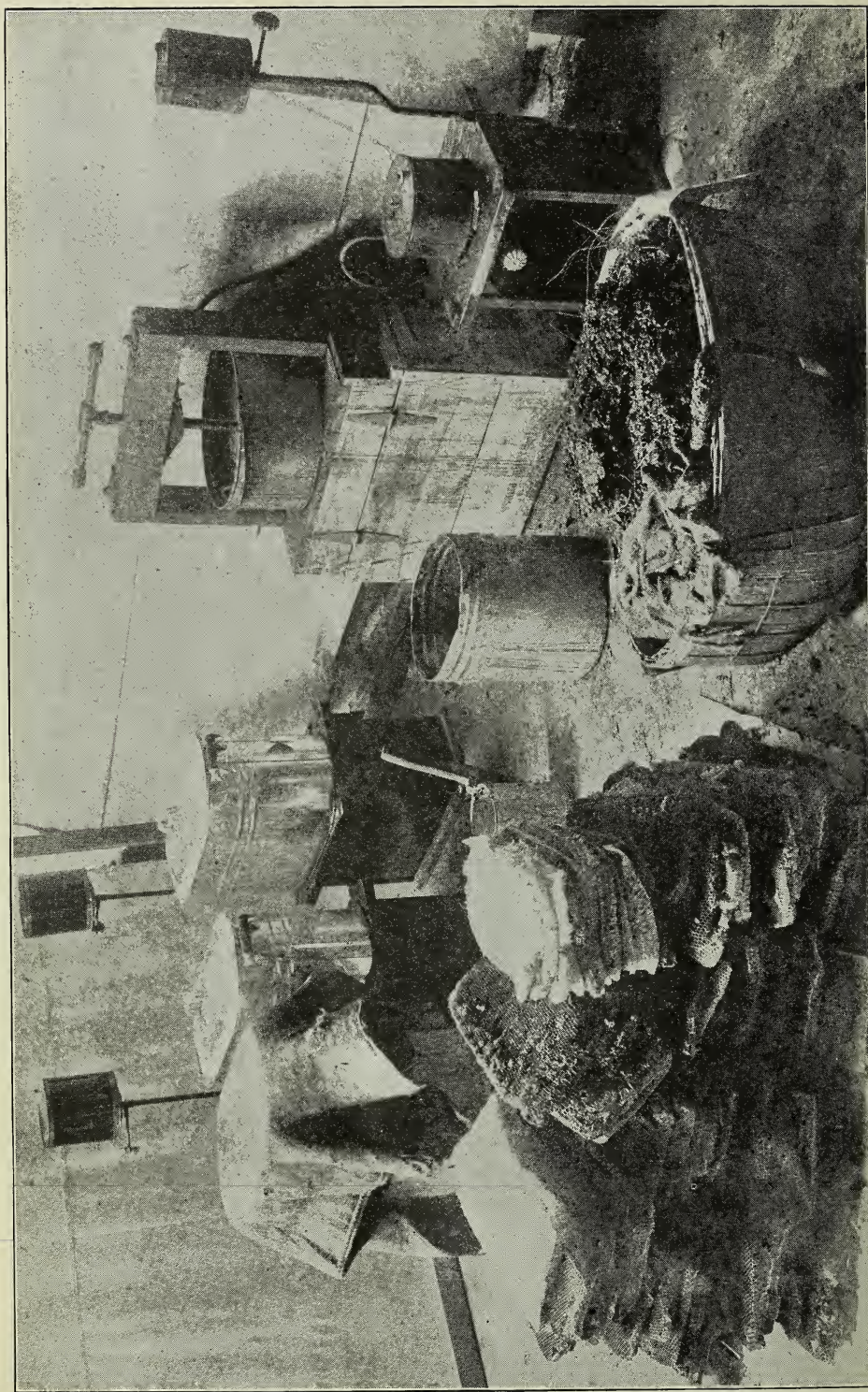


FIG. 2.—Complete outfit for rendering wax. The two boilers on the stoves are for melting the combs in water. The water and wax in the press are kept hot and constantly circulating by a small jet of steam generated over the small stove.

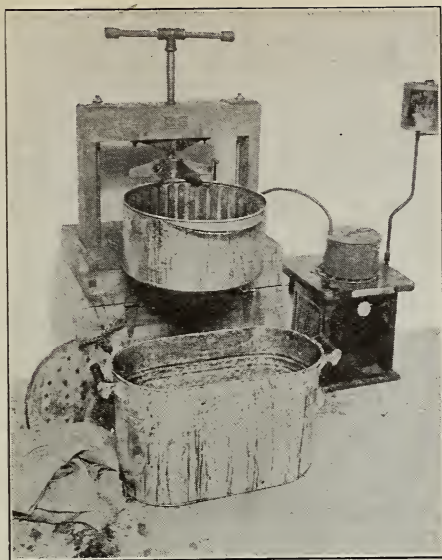


FIG. 3.—The press can pulled forward ready for filling.

is no need for running the refuse thru a second time. Some wax is left, I know; but a very small amount after all if the work is carefully done. In fact, I think the refuse is cleaner than I have ever seen it before, even after it has been run thru a press twice; and there is no hop-skip-and-jump, nor any need of covers or any other special precautions to prevent chilling of the wax in the press, so long as there is water in the boiler and gasoline in the tank of the single-burner stove.

SOME OF THE DETAILS OF RENDERING WAX.

It is some time since we gave in *GLEANNINGS* the process that we recommend for rendering wax. No doubt there are other plans just as good or better; but this plan, except for a very large production of wax, requires the least expenditure for equipment of any with which we are familiar.

Fig. 2 shows the complete outfit, including stove, press, steam-boiler, unmelted combs, the pressed refuse, etc.

A large cookstove with a top big enough to hold two good-sized wash-boilers is ideal; but frequently it is inconvenient to provide such a stove in a basement or outbuilding where the wax-rendering would be done. Two double-burner gasoline-stoves, one for each boiler, will do just as well therefore. Oil-stoves would answer the purpose all right for melting the combs, but would not be as satisfactory for generating steam in the small boiler as a gasoline-stove, owing to the difficulty usually in turning down the blue-flame oil-burner. The wash-boilers cannot be cleaned very easily; hence they

should be kept for this purpose only. Many prefer to use a large square tank of galvanized iron. Or a "feed cooker" may be used, costing anywhere from three to fifteen dollars.

The press should stand on a good solid box that is firmly anchored to the floor. It should be hinged in front so that it may be tipped over to run the hot water and wax into the can beneath. A large box or basket should be provided for the refuse after it is pressed.

When ready to begin work, one of the stoves should be lighted and a boiler of soft water put on to heat. If the water is very hard add a little vinegar. When the water is boiling throw in the old comb. It is astonishing the amount of comb that can be put into one boiler. Thirty-five to forty combs (half barrel) may be put in gradually, provided they are carefully pushed down with a paddle and stirred as they melt. When all the comb is in that the boiler will hold conveniently the cover should be put on and the mass allowed to cook thoroly. About this time the other stove should be lighted and another boiler of water put on. The burner under the steam-boiler should also be set going. It makes the "cheeses" more porous and really facilitates the work if a quantity of straw, preferably rye straw, cut up in two-inch lengths, is stirred in with the melted comb.

It is a mistake to begin pressing as soon as the comb is all melted up. The cooking process must be continued with frequent

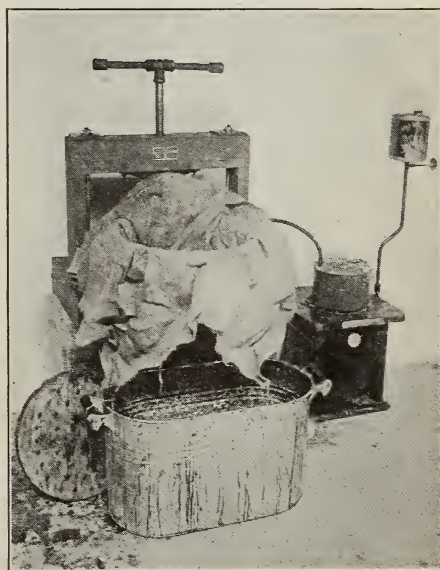


FIG. 4.—A large piece of stout burlap is the best material to use for holding the melted comb.

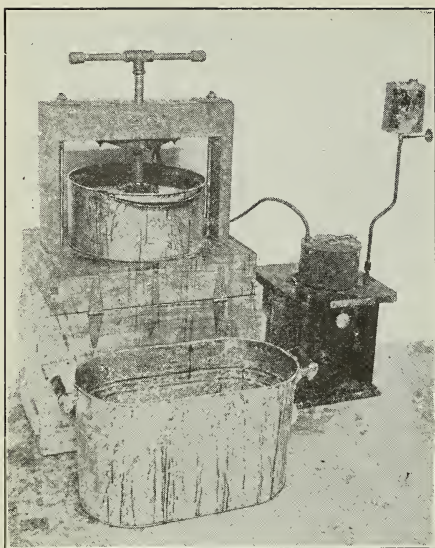


FIG. 5.—Applying the pressure. The wax rises to the top of the water. As much time may be given to the pressing as desired—no danger of chilling, because of the jet of steam.

stirrings until the contents of the boiler is reduced to a steaming mushy mass. There must be no lumps or hard chunks.

When the contents of the first boiler is ready for pressing and the steam begins to issue from the pipe in the bottom of the press-can, pull the can forward on the platform, holding it in position by means of the spider on the lower end of the screw resting on the top of the can, as in Fig. 3. Have ready a few pieces of good strong burlap, at least 40 inches square. Place one of these in the press-can; put the follower on top of it and throw a few dipperfuls of hot water from the other boiler into the can to heat thoroly all the parts. Pour this off and spread the burlap down into the can as in Fig. 4. Dip about two gallons of the melted comb and water into the press and fold the burlap neatly over it, as carefully as tho you were tying up a package. This is very important; for if there are thick rolls of the cloth in any one part of the "cheese," other parts of the refuse will not receive as much pressure as needed. To fold the burlap over, fold the back edge over toward the front, being careful to get the sides straight, then push the front edge over on top of it; lastly, fold in the sides neatly. Place the cleated circular follower in position (down of course); push the can back exactly in the center of the platform, and run the screw down very slowly—Fig. 5.

At this time it may be necessary to turn

down the gasoline-burners under the first boiler in order that the contents may not get too hot; or, if it is on a stove, pull it over to the edge. Always use the utmost care to prevent the wax from slopping over. If it does, there is danger of having a serious fire. As soon as the water in the second boiler begins to boil, begin filling that with combs.

Always turn the screw down slowly. If it is run down rapidly before the liquid in the mass inside the burlap has time to squeeze out, the burlap and the contents inside are likely to squash up around the follower, interfering seriously with the escape of the water and wax. Turn the screw only when it turns easily. Of course, when it is clear down it may be turned tight; but there is really more danger in applying too much pressure than in not applying enough.

Sufficient water should have been dipped in with the comb so that the water and wax when the screw is clear down will just about submerge the iron spider on the end of the screw. It ought to take two or three minutes to get the screw clear down. When it is down about as far as it will go, release the pressure until the cast-iron follower is nearly out of the liquid; pull up on the rope handle of the wooden follower until it is free from the burlap, thus allowing the hot water to saturate the refuse again. After a minute or so apply the pressure slowly once more. This process should be repeated two or three times.

When the screw is finally down as far as it will go, place a wash-tub or a large can on the floor in front of the press and tip the

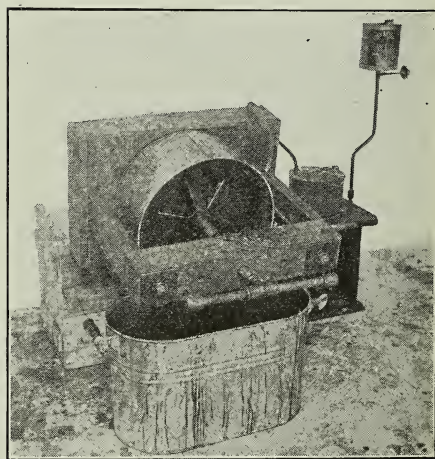


FIG. 6.—When the pressing process is completed the whole outfit is tipped up on its hinges to pour off the hot water and wax.

latter over, pouring all the water and wax out. Leave the press tipped over a few moments until all the wax drains out—Fig. 6.

When no more wax will drain out, tip the press back into its regular position and pour the hot water and wax into an empty can or barrel having a faucet at the bottom. If a barrel is used which is smaller at the top, the hot water must first be drawn off after the work is over, and the wax run into previously soaped molds to harden. It is more convenient to use an oval-shaped can or round can that is larger at the top, so that the wax may be left right in it to harden in one large cake. There is no difficulty in lifting the cake out, even tho it be 8 or 10 inches thick.

The idea of the faucet at the bottom is to permit drawing off the hot water, so that it may be used over and over again. There is no object in using fresh water each time; therefore when the first boiler is empty enough hot water may be drawn off from the supply-can to fill it half full again for a fresh lot of combs. When first starting out, it is a good plan to fill the boilers a little more than half full so that there will always be enough water for subsequent meltings.

If the work has been carefully done, when the screw is raised after the water and wax have been drained off, and the follower taken out, the "cheese" will be dry, comparatively speaking; and when it is dumped out into the box or basket, if a handful is taken up and pressed momentarily between the fingers, no great amount of wax will show. If only a very fine line of wax appears in the ridges between the fingers you can depend on it that you have done your work thoroly. It is hardly necessary

to say that it is convenient, if not absolutely necessary, to wear a pair of canvas gloves during the whole process; for when the burlap is shaken out the refuse is exceedingly hot—very much hotter than when a jet of steam is not introduced into the press-can. When shaking out the burlap, if the refuse does not shake out clean, lay the cloth over the box, inside down, and quickly rub it between the hands. This will dislodge the refuse still clinging. Now place the burlap over the press again and repeat the process. The same burlap should last for a dozen pressings. Each time you shake it out, however, look it over quickly to see if there is any sign of a weak spot or the beginning of a tear. If there is, discard it and use a new cloth.

A heavy rug or old sack should be thrown over the unheated can containing the supply of hot water and wax, poured in from the can under the press; for the more this heat can be saved the shorter time it will take to start a new boilerful of combs.

The final waste of wax by this process need not be over 3 per cent. There is no process that we know of that secures *all* the wax. The quality of wax from this press is the every best, needing only a little scraping on the bottom to be ready for market. The color is good, and there is no need of refining it afterward.

When diseased combs are rendered, especially those containing some honey, every precaution should be taken to prevent the bees from robbing. If the buildings can not be made bee-tight, the work must be done at night, and every tool and utensil used thoroly scalded. The refuse from the diseased combs should be burned, and the water which was used poured where the bees cannot possibly get access to it.

SOME OF THE THINGS I HAVE LEARNED IN THIRTY YEARS

BY N. SCHNETTLER

In 1885 I bought a colony of bees in the trunk of a tree; but having no success with them I bought two more colonies in Langstroth hives. I had three swarms that summer, and later on increased to 25 colonies.

After that I moved to Nebraska, and worked at the mason trade. I bought some bees and started in again, but without success, for there was so much wind, and in this particular locality where I was there was no white clover nor linden. In 1899 I decided to come back to the old Badger state.

In the spring of that year I bought a colony in a Langstroth hive for \$7.00.

Within seven years I had increased to 100 colonies. Now I have 225 colonies, and that is my limit; for during the last few years I have made only enough increase to atone for winter losses.

MY EQUIPMENT.

It is easy enough to control swarming if the bees are given sufficient room in time. I use the sectional or divisible-brood-chamber hive, so that I can interchange the upper and lower story. I use a flat cover overlaid with single-ply roofing-paper, which makes a waterproof cover that is inexpensive.

The bottom-board is made of matched



N. Schnettler's 225-colony apiary at Valders, Wis. Mr. Schnettler allows only enough increase to make up for winter losses.

Mr. Schnettler allows only enough increase to make up for winter losses.

lumber with $\frac{3}{4}$ -inch strip on the sides and back for the hive to rest on, so that there is a $\frac{3}{4}$ -inch entrance. I have contracting-cleats to close this space to $\frac{3}{8} \times 7$, or $\frac{3}{8} \times 2$.

I use ten-frame hives because the brood-chambers will then always have some honey in the outside combs. When a super is taken off from an eight-frame hive, sometimes there is not a pound of honey left in the brood-chamber. This is why I prefer the larger hive.

MY CELLAR.

I keep all of my bees in a cellar during the winter, the dimensions of which are 13 x 41, and 7 feet high. The walls are stone, 2 ft. thick; 2x4's laid flat are spiked to the wall, the wall is then lathed and plastered, as is also the ceiling.

The floor is made of small cement tiles laid close together on ground made perfectly level. A one-inch coat of concrete over the tile makes the driest floor possible, and that is what the bees want—a dry and well-ventilated cellar.

For ventilation I have a six-inch galvanized pipe at each end of the cellar, the one on the east side coming down to within one foot from the floor, and the one on the west side about two feet from the ceiling. Each pipe runs up thru two elbows and on thru the roof, the one on the east side hav-

ing a half-cover that always turns with the wind, and the one on the west side with a windcatch that always faces the wind. I have the inlet pipe on the west side, because we have the most wind from that direction. By this plan the foul air is forced out on the east. I have a line 180 feet long running east and west that I use to carry the bees in and out of the cellar. I usually put them in during the latter part of November and take them out in the first part of April. I always bring them out in the night.

I produce extracted honey mostly. I have a power extractor, and it is fun to watch it run instead of being obliged to run it by hand.

The little Ford shown in the picture is my honey-peddler. There is nothing handier about an apiary than a little car for delivering honey. I made a platform that fits on top of the rear seat when the cushion is removed, extending over to the front seat. Two screws hold it in place. I can carry fifty 10-lb. pails or even the large cases of honey. When I receive a telephone order for honey I can deliver it very often inside of twenty minutes. I bought the car in 1913, and it runs better than when I first got it.

Valders, Wis.

NOTES FROM GERMANY

BY J. A. HEBERLE, B. S.

THE QUEEN-EXCLUDER.

The advance beekeeping has made in less than a century—in fact, the difference between ancient and up-to-date methods—is

chiefly due to four inventions—the movable frame, the extractor, comb foundation, and the queen-excluding board. The value and the merit of the three first inventions have

never been doubted; but the queen-excluder, from time to time in articles published in the German bee-journals, has been adversely criticised. Of course, such articles have always been answered by some who recognized the great benefit of its proper use.

THE QUEEN-EXCLUDER.

Some beekeepers called it a nuisance to the bees; others, an instrument of torture. This was said especially of the perforated zinc sheet excluder. Perhaps such criticism has stimulated the inventive genius. The list of bee-supplies was increased by a queen-excluder of "papier-maché" of any size, and by excluders entirely of wood. The wooden excluders are certainly handy for the bees where they are of suitable size; however, these are mostly very small, about 3 x 10 inches. I consider an excluding-board the size of the brood-nest just right.

We have now on the market two kinds of wire excluders. I consider them preferable to the zinc sheet excluders, altho I have only the latter in use.

SHEET ZINC EXCLUDERS.

These, after they are stamped, have on one side very sharp edges. Even a treatment with wire brushes does not remove all of them. It is these sharp edges that abrade the natural hair dress, and may inconvenience and injure the bees, some of which have to pass them heavily loaded. These sharp edges may easily be beveled off and made smooth by passing a suitable tool over the edge of each perforation. A few minutes suffices to bevel the edges of an eight or ten frame excluder.

DIPPING EXCLUDERS IN WAX.

After the perforations have been made smooth, the excluder might be further improved by dipping it in hot wax and hanging it up with a wire to let the surplus wax

drain off. The hotter the wax the thinner the coating. Such a wax-coated excluder pleases the bees much better than the bare metal. The coat of wax reduces the heat-conducting quality, and offers a better foothold for the bees.

ANOTHER WAY.

Besides using excluders there is still another way practiced among beekeepers here to prevent the queen from going into the super. This method is based on the assumption that the queen will not pass thru a long dark channel. The construction of some of the hives in use here can be readily adapted to this system. The brood-nest, by a permanent partition, is separated from the super. On the side of the entrance a long dark channel leads up to the upper story. It is said that the queen very rarely finds her way thru into the super. I have never used the plan, but know of a practical beekeeper who used it successfully for many years, and was pleased with it.

Quite a number of beekeepers have a hole only 3 to 4 inches in diameter; others, an opening about 4 by 10, covered with an excluder to communicate with the super. I am satisfied with an excluder nothing less than the size of the brood-nest.

IMPORTANCE OF THE EXCLUDER.

The weather and bee-pasture here are such that, without the excluder, the surplus would be so small (many seasons nothing), I would not keep bees for the honey they might bring, but would keep only a few colonies for the pleasure they would afford. The excluder for me serves not only to keep the queen from going up into the super, but also to limit the brood-rearing at the right time. This I consider essential to success in this locality.

Kempton, Bavaria, Germany.

ODDITIES OF CHINESE BEES

BY BRO. ROMAIN

The readers of GLEANINGS will be pleased to know that their esteemed paper is read in a country so far distant as China; they may also appreciate the good will of a remote subscriber who comes bringing his note of variety, talking of the Chinese bees, which may, perhaps, share in the oddity of their masters, the citizens of the newest republic.

In China we find the same bees as in Europe—the pure races excepted. They are nearly half yellow, but a little smaller than those in Europe—so much so that they rear "drones" in worker-cells of European

foundation. They show a great reluctance to build on that foundation and to go into the section. Like their masters, they don't trust innovations.

In the southeast of China (Foo-kien) there exists another kind of bees—black, hairy, and much bigger than common bees. The workers are as large as black European drones. I nearly succeeded in getting a colony of those dragon bees. Unfortunately the Chinaman killed them by smoking the box over the chimney of his hut. It was a great pity, for I believe those bees able to gather nectar from the kidney beans



In some parts of the United States this would be a rare sight—a field of sweet clover tied in bundles. The seed was sown here in Medina, last year, between the rows of corn, at the last cultivating in July.

(feves, phaselus), very abundant here in springtime. Common bees do not visit them; but bumblebees and pseudo-bees are foraging upon them all day.

The Chinese bees are very mild, and easy to manipulate. A big hive may be visited, frame by frame, without smoke and without getting a sting. One of their most interesting qualities is that they completely ignore the "propolis." Not a bit is to be found in their hives. This has, perhaps, a tendency to attract the moth which is, in fact, a terrible enemy of bees in China. But the manipulation of frames is thus very much simplified. Our spacers being staple-screws fixed in the top-bar, a single pull or push can move five or six frames at a time (39 cm. x 20), (15 3/4 x 8 inches), somewhat like the English frame. There are no squares at the bottom, our hives not being intended to be moved. Of course the Chinese peasants do not know the modern frame hive. They make hives of whatever vessel comes into their hands—box, bamboo basket, old barrel,

earthen pot, old petroleum-box, bucket, pail. The preferred hive is the one with drawers without bottom, these being added underneath, and taken off from the top. By this ingenious system they sometimes obtain a very strong population, but with a large number of drones. The boxes are usually placed in front of the house, high up under the projecting roof. Often, also, they are placed inside the rooms with a bamboo tunnel across the wall, or the entrance is made by simply removing a brick. This last mode of location has the immense advantage of preserving bees during the winter, which is rather severe in the north of China, where a temperature of -25° Centigrade (7° Fahr.) is often registered during three months — December, January, February. Another but no less real advantage of this indoor location is to save boxes from thieves. Hives in the open field, as in Europe, would have 9 chances out of 10 not to see the end of their first season, the Chinese being robbers or marauders by instinct or necessity.

Hives are rather thinly scattered thruout China—a few here and there, except in certain districts in the West, where they are pretty numerous. In a wild state bees are found in trees, old walls, in the tombs, or, rather, in the space between the coffin and the masonry surrounding it. I must remark that in China the coffin, made of thick planks (sometimes 5 in.), is simply laid on the ground, and a brick wall constructed around it.

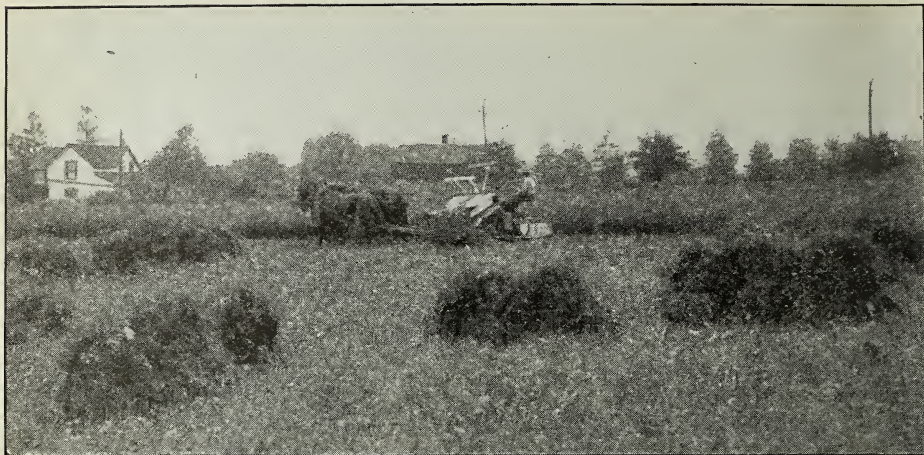
Many attempts have been made by Europeans and Japanese to introduce Italians in China, but, up to the present, with little success. A friend beekeeper, Mr. B., has bought more than 20 queens from America and Australia, but all were dead on arrival except three, which the bees quickly dispatched to their ancestors—out the foreigners!

Lately the Chinese government has manifested the intention of improving beekeeping; but years may pass before anything is done in practice. However, that culture or

industry would give very satisfactory results in many places.

In Shanghai, where, as a rule, the winters are very mild, -5° C. about (27° F.), strong colonies rear brood during the whole winter—a fact I have ascertained myself during the last two seasons. Wax scales are very abundant on the bottom-board. During the calm sunny days of November, December, and January, the bees gather a good deal of honey and pollen from the loquat-tree, just blooming in winter. The consequence is that many colonies may swarm even in March.

Unfortunately our flora is very poor, China having no meadows and no woods. Here are our best honey-plants: the colza, or rape; the coronilla; some fruit-trees; the wistaria, the Virginia creeper, the *cucurbitaceae*, the sunflower, cotton, the loquat. Of these the first only is abundant. The honey (very inferior in flavor to European or American honey) is used only as a remedy, and the quantity obtained from a box



Harvesting sweet clover at Medina

is only a few pounds. Ten pounds would be a rich harvest. Foreign honey is sold at 85 cts. to \$1.00 per pound.

The *British Bee Journal*, the *American Bee Journal*, *Gleanings*, and *Apiculture*, of Paris, are read and circulated in Shanghai,

where the beekeepers (a dozen already) seem to take a keen interest in beekeeping, and, no doubt, will improve that ever interesting branch of agriculture.

S. Francis Xavier College,
Shanghai, China.

SOME OF THE REASONS WHY BEEKEEPING IN CHINA IS DIFFICULT

BY C. A. PIERRON

The study of beekeeping is most certainly an interesting one. Practice is more attractive than a mere book knowledge of the subject; but both are what every beekeeper must aim at to be really worthy of the appellation. Some of the numerous things relating to a hive or to a colony of bees would be better understood by the opening of a bar-frame hive and by examining the contents of it in detail, while some other facts given in a book must be accepted in good faith. They are the result of the patient studies and researches of other people, and with little trouble these good points can be learned. Yet many passages are understood only at a second or third or further reading. But, notwithstanding the good will of the author, a book cannot solve all the difficulties arising before a beginner. Even that "king" of books on beekeeping, the A B C and X Y Z of Bee Culture, cannot enter into the fullest details of the subject; for if it did it would cease to be the most popular book among beekeepers on account of the superabundance of generally unnecessary explanations, or of facts applying to too few cases to be given in a book made for the greatest benefit of the brotherhood. It is, therefore, important for every bee-

keeper to set his brain to work to solve for himself a number of questions that may arise in his mind.

Here in China a beekeeping enthusiast with a "classic" on the subject at his disposal may be thrown into utter confusion capable of leading him to discouragement. One of the great drawbacks of beekeeping in this country arises from the fact that Chinese bees are smaller in size than the common bees. Accurate measurements taken from a certain number of native hives that had been cut thru gave the following measures which I compare with those found in books.

America or Europe		China
Thickness of worker combs, $\frac{7}{8}$ in.;		almost 13-16 in.
<i>Worker-cells—</i>		
Almost 5 to the inch;		about 5 $\frac{1}{2}$ cells to an inch
<i>Drone-cells—</i>		
About 4 to the inch;		about 4 $\frac{1}{2}$ cells to an inch
<i>Space between midribs—</i>		
1 $\frac{1}{8}$ in. to 1 $\frac{1}{2}$ in.;		1 3-16 in. to 1 $\frac{1}{8}$ in.

With such dimensions it is quite natural that a lot of statements asserted in books on beekeeping are found faulty for this country.

When starting the keeping of bees, the finding these insects rather small we thought that what was true for Europe or America

ould just as well be right for China, and acted on that principle. For example, wishing to transfer the combs from a native hive to a frame hive we fixed in frames some bits of combs that had been used for rearing drones, and which, when compared to the bases of cells on foundation, did not appear extraordinarily large. Of course the following year we had a fine crop of drones instead of honey.

Foundation when given to bees in spring-time was readily accepted; but was with difficulty taken to later in the year. The explanation of this is easy. In spring the bees working as always for the development of the race, and therefore requiring drones as well as workers, were willing to draw out foundation which allowed the rearing of drone brood preparatory to the rearing of queens at the approach of swarming time. Later the swarming impulse leaves them as the honey season nears its end, and the bees do not want drones any longer, but workers only, for they feel that the existence of the colony depends on the number of workers. At such a time foundation with bases too large for them to build worker cells on was hardly drawn out, tho inserted in the middle of the brood nest, and the remainder of the hive was quite filled with brood and honey.

This having been considered, certain facts which at first seemed to me almost incredible became easy problems to solve. In 1912 we had given some foundation to draw out to a swarm whose queen was removed some time afterward; and tho to us the cells appeared like fine worker-cells, and

that worker brood was reared in them the remainder of the year, yet the following spring we had frames perfectly filled with drone brood. We thought that, on account of the period of queenlessness, the bees had built drone-cells, and gave them some other foundation to draw out; but the result was the same—viz., worker brood that year and drones in the same cells the following spring. We had a like success every time we tried the experiment.

To rear worker brood the bees partly closed the openings of the cells, leaving only a small round opening about the size of one of their own worker-cells. In a neighbor's hive I saw another thing which interested me much. In summer time, during the spell of rest forced upon the bees by the absence of nectar-secreting flowers, his bees busied themselves conscientiously by biting off almost to the top-bars the beautiful combs they had built some time before on comb foundation, and set to work to afford their future sisters quarters better adapted to their requirements. A pretty common thing, will veterans say? When the bee has nothing to do outside it keeps inside doing some mischief. Yes, I know bees do sometimes bite off the bottom of an old comb, and, may be, at the approach of winter, of a new one too; but that is nothing compared to a regular pulling-down of the house to build new lodgings.

Another beekeeper, who had ordered foundation and frame hives from France, complained bitterly to one of my acquaintances that Chinese bees were not willing to accept European civilization. "They won't



Thrashing the sweet clover.

build on foundation," he said, "and won't keep to the frames, but must also build between them."

This last fault was not an attraction for him. His frames were spaced $1\frac{1}{2}$ in. apart from center to center. No wonder, then, that additional combs are built, since, with frames only $1\frac{3}{8}$ in. from center to center, I saw additional combs being built. It would be still worse with frames spaced $1\frac{5}{8}$ in., as is given sometimes in books. It is true that this large spacing is for wintering; but it happens that bees build combs even at the end of October and in the beginning of March. The result of this spacing, too wide for the bees of this country, is what can be expected. In some hives the combs cannot be separated any more than if built across. In others, by taking good care the frames can be taken out; but some combs, being fixed to the edges of the frames, can fall easily, to the great danger of the operator and of the neighbors. Moreover, some frames supporting two combs are liable to break under the weight. We had to correct our comb-spacing to adapt it to the requirements of the bees of this country. It was an easy matter, as we use screws as spacers. A few turns gave us the distance of 1.9-32 in. from center to center, which we adopted.

Another great drawback of the small size of our pets comes from the want of proper excluders. Those which we received from Europe will not work properly. Many times I have known queens to pass thru the perforations of the excluder so that the manipulations made became failures. Likewise the drone-traps allow all but two or three of the largest drones to escape.

When all this is considered one thought

comes to mind—viz., to construct implements and make foundation for China. That would remedy the evil; but the Chinese are not for European or American methods of beekeeping for the present, and there would not be a sufficient demand to incur such a cost at the present time. A second solution would be to Italianize our colonies; but here, again, a great difficulty arises—the danger of mismating. For a time I thought we could have Italian bees, for I had heard some one say that in Japan the native drones would not mate with Italian queens. I found it hard to believe, and conjectured this was to be attributed to the difference in size or to some other unknown reason. Last year all my thoughts on the subject vanished when a Chinese who had studied beekeeping in Japan told me that the Japanese cannot keep pure Italian bees, because of mismating.

Now, it may interest my readers to know how I managed to have my combs built and wired at the same time. I prepared frames with wires as if foundation were to be set in. A small starter with only two or three rows of cells was fixed to the top-bar. The frames thus made ready were put in the hive, which was perfectly level from side to side. I thus obtained beautiful worker combs when those frames were inserted between two brood-combs toward the end of the season in strong hives, or at any time of the year in rather weak ones. This process for obtaining worker combs is slow, far from being perfect, and cannot be compared to the regular and thoro work obtained from comb foundation. I would gladly receive suggestions as to the best way to have combs built when no foundation can be used.

Shanghai, China.

THE BEE IN COURT

BY C. O. TARBOX

A recent decision in the City Court of Yonkers, N. Y., determines the ownership of a swarm of bees that have come out of the owner's hive and alighted upon another's premises. Judge Beall, in deciding the case, wrote a very exhaustive opinion in which he cites authorities dating back to the time of Justinian. He says that Blackstone classifies bees as wild animals; that he takes his law from the Greeks and Romans, and that there has been practically no change in the law from the days of Plato, and that an uninterrupted line of decisions thru Greek, Roman, English, French, the Netherlands, and the English common law,

down to late decisions in Iowa are to the same effect, and suggests "the probable reason for this set policy being the danger of touching the subject." The court holds that, where a swarm of bees left its owner's premises, his title to them was not destroyed by their alighting on another's land, even tho he would be a trespasser in going upon that land to retake them; and that if another than the original owner takes them into his possession while on another's land he gets no title which vests in him or in the owner of the land upon which they are, but is liable to the original owner of the bees for conversion. This, however, seems

to be qualified by the fact that the owner must have kept the bees in sight, or have some special means of identifying the bees as his, and that, when he has lost sight of them, and so lost the means of identifying them, they are then the property of any one who lawfully secures possession of them. This seems to be the first reported case in the New York courts where this

question has been decided; and, unless reversed upon appeal, it will stand as the settled law of New York upon the questions decided. The title of this case is *Brown vs. Eckes, et al.*, reported in Vol. 160 N. Y. Supp., at page 489. The complainant, a beekeeper, was also a lawyer, and the court suggests that no lawyer needs bees to assist him in stinging.

Fredonia, N. Y.

AN OLD SOLDIER WHO IS BOTH A BEEKEEPER AND FRUITGROWER

BY S. E. O'NEEL.

I am an old soldier, 75 years of age, but still able to look after 40 colonies of bees, a large lawn and flowers, and a good fruit and vegetable garden. I get far more profit and pleasure from the bees than from anything else I have.

take flight again. Since the picture was taken, a honey-house has been built near the apiary, and the young grapevines are old enough to shade the hives nicely.

There is lots of pleasure and health in the combination of bees, flowers, and fruit.



S. E. O'Neel's apiary of 40 colonies at the rear of his residence, Dupont, Ind. Mr. O'Neel is an old soldier who finds health, pleasure, and profit from his bees and fruit.

I have each colony standing on a sloping concrete slab, which forms an alighting-board down to the ground, so the heavily laden bees can crawl in when too tired to

I dislike a disorderly back yard. Everything here is kept as nice as is the front lawn.

Dupont, Ind.

TAKING OFF HONEY RAPIDLY

BY LOUIS H. SCHOLL

Two comments on a recent discussion of the above subject by me that have appeared in *GLEANINGS* will bear a few words of explanation so that the readers will not feel that they may be misled by the experience

that I gave. The first of the comments, by P. C. Chadwick, appears on page 587, July 15.

Mr. Scholl says, page 471, June 15, that by his method it is possible to take off more

than a thousand pounds of honey in half an hour! Then he adds, "The writer holds an actual record of 1140 pounds of honey removed in exactly 28 minutes." I figure that to be just a fraction under 41 pounds per minute. No, thanks; I do not care to have any one slamming around among my pets like that.

In the August 1st issue, page 650, Mrs. Allen comments in this manner:

Mr. Scholl says, page 471, "It is possible to take off more than a thousand pounds of honey in half an hour." My marginal comment, in the light of our own recent experiences, reads merely "Whew;" May I repeat it here "Whe—ew!"

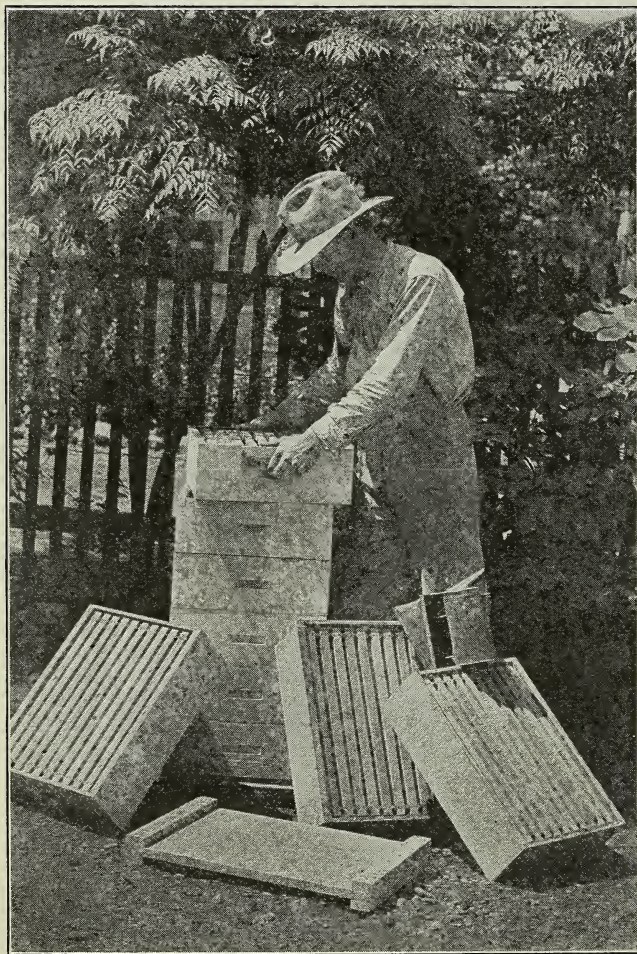
Let me explain that we are just as careful about "slamming around among my pets"

as is friend Chadwick, and that the trick of taking off the quantities of honey does not harm the bees in the least. The truth of the matter is that, when a hive is approached and the cover raised, the bees are simply told by the "smoke language" to move down and out of the finished super or supers that are to come off that hive. Then the cover is removed entirely, thrown on the ground in front of the hive, and more smoke is blown over the top of the open super. While the bees are making their way down, the next hive is treated in the same manner, then another, until we have four or five hives open and the bees going down. Rapidly returning to the first hive we smoke them all again in the same rotation. Next we set down the smoker, and, with hive-tool in

hand, pry loose and lift off quickly the topmost super from each of the four or five open hives. Grasping the smoker again we go over the smoking operation with each hive that has more honey to come off, in a rapid manner. Thus the supers are rapidly freed of the bees and removed from the hives.

The illustration given herewith shows the manner in which the foregoing is done. The few remaining bees, still in some of the supers, will find their way out and back to the hive from which they came by the time the supers are loaded on the wagon or truck, or they are shaken or "jostled" out of supers not entirely free of them by gently "jouncing" the lower part of the supers against some object. All of this is done so quickly, and yet in so gentle a manner, that there is no room for argument on the subject of "slamming around."

New Braunfels, Tex.



Scholl's method of taking off honey in a hurry.

THE ROCK HONEY OF INDIA

BY N. TOURNEUR

Many are the honeys of India; but most singular of them all is the rock honey of the Madras Presidency. It is one of the various items of the forest products collected in the Satyamangalam Hills and bulks large in the revenue list.

Rock honey is produced by a very large brown bee, and stored in holes and under ledges of rock. Coarse and dark, the wax of it very dark in color, it is in great demand among the natives.

The first season's products are collected in August, when the rocks are dry, and the harvest of the second season as soon as the hot dry weather begins. Thus the danger of slipping off the rocks is lessened very much; but on the whole it is perilous work, often bringing disaster and death to the collectors.

In the Satyamangalam Ranges the work is done by natives of the Kurumbar hill tribe. When the proper season comes for gathering the honey a party of from fourteen to fifteen start out up into the wooded ranges which the bees frequent. The expedition always sets out on Monday, which day of the week the superstitious natives look upon as lucky. The party take with them coconuts, camphor, plantains, and other offerings to their tribal deity, also their implements for gathering the honey, consisting of a long ladder made of fiber with a strong rope of the same material, a bowl made of basketwork smeared over with clay till it is water-tight; a sharp-pointed staff, and a bundle of torches made of green and dry grasses. Of the party, only two are collectors of honey, the rest being employed to carry goods and chattels, put up sheds, light fires, cook, and to do the odd jobs for the two collecting Kurumbars. These two alone climb the rocks and gather the honey, and, invariably, are brothers-in-law. That is, to be more explicit, each man's wife is the sister of the other man, and each Kurumbar is responsible for the life and safety of the other.

When the collectors reach a suitable ledge of rock, which is easily enough picked out, their quick eyes tracing the flight of the busy bees, the rope is attached to the ladder, and tied firmly to a handy tree. The ladder is then thrown off the top of the rocky ledge. One of the Kurumbars holds on to it, and the other climbs down the ladder till he finds himself on a level with the great clusters of honey-combs which are on the slippery sides of the rock. Arrived there, he puts his right foot firmly on one

rung of the ladder, and his left over the rung above till the rung is in the crook of his leg. Thus firmly fixed he swings himself to and fro, having in one hand a burning torch and in the other the pointed staff; and as he swings into the rock he applies the torch to the combs, drives away the bees, and gathers the luscious combs.

At the end of each day's work the Kurumbar climbs up to the summit of the rock. The operations go on for several days, the collector having a singular immunity from stings. On the last day, when all the honey and wax have been obtained, the rope is untied and the ladder dropped down to the bottom. From ten to eleven cents a pound is given for this honey by the native dealers.

HONEY IN COMMERCE.

Another famous honey of India is that which forms a popular article of commerce up in the Himalayan provinces. In most of the villages of the northern ranges of the Himalayas bees are kept, and the honey, whether the produce of the wild or the domesticated bees, adds to the income of many a native household.

It is usually sold in the local bazaars at an eighth of a rupee, or two annas—that is, six cents a pound; and altho not much thicker than syrup, and of a brownish color, it has a flavor equal to the finest honey of Narbonne—the honey par excellence of all Europe, and is, moreover, much less cloying.

The domesticated bee of these regions is known by the name of "mohru," "moh-ri," or "mori," according to the particular province. It is not much more than half the size of ours, but is very industrious and mild-tempered, and in this respect gives even more pleasure in working with them than pure Ligurians. Straw hives, with tapering conical roofs of reed, are in use. The fine quality of the honey is ascribed to the most common source of the bee's honey-gathering—the prangos. It is a bushy growth which grows very freely in the Himalayan provinces, and consists of long feathering leaves of dark green, crowned by a profusion of large tufts of yellow flowers, which have a rather pleasant aromatic fragrance, and are covered with a glistening, viscid, sugary juice that attracts the bees in such numbers that the flowers are often blackened by them.

A TRULY WILD HONEY.

The wild bee or "bhaonra" of these mountainous regions, and larger than our

domestic bee, also provides a large quantity of honey and wax. It is almost black in color, and has wings longer and broader than the bee of the hive. Its temper is fiery, and its sting very venomous. It usually builds its nest under the projecting ledges of rock, and steep overhanging precipices, in a situation usually inaccessible except to the most daring native.

Advantage is taken by the collectors to rifle the nests when the prangos is fully in flower, when the bees have plenty of honey, and are in their most amiable mood. When the hot season or time of dearth comes, then the wild bees are very irritable, and difficult to approach, their honey-sacs being but partly filled.

It is interesting to note, too, that the honey of the wild bee of the Himalayas, if

gathered before the month of March, is fully equal to that of the domestic bee; but if in the following month it is said to produce intoxication followed by insensibility. This effect is due, probably, to the wild bees feeding on the flower of a species of aconite which is then in bloom, and very plentifully, high up the mountains, beyond the range of flight of the domestic bee.

Both the honey and the wax of both kinds of bees form valuable articles of export down to the plains, and help to swell the revenues of the little states or kingdoms. There is a great demand for the wax, which is run down and treated for the composition of candles, in particular for those burning before the many different shrines of the many various gods of India.

Thundersley, Raleigh, Essex, England.

A TELEGRAPH OPERATOR AND HIS BEES

BY CURTIS C. GROOMS

While in my apiary the afternoon of October 11 I found aster honey coming in very briskly. At one time I noticed seventeen bees in the grass in front of one hive so heavily loaded that they had failed to reach the entrance. I do not know when I have felt so good over anything, for I had extracted from two to six combs from each of my brood-chambers during September, fully expecting some flow from aster; but up to the 28th of September none had come in. Toward the end of the month there was a good rain, altho it was cold. Soon, however, the weather warmed up, and the honey has been coming in nicely ever since. Most of my colonies had plenty of stores to last thru the winter.

Last spring I purchased 50 colonies of bees in ten-frame hives with five empty hives for \$200. I increased them to 85. Three colonies were almost destroyed by European foul brood, and four were queenless. Treating the diseased colonies and doubling up the queenless ones leaves me with 78 good strong colonies. Two of them that had the disease last spring I transferred and cleaned the hives out after charring the inside and the frames, and placed new swarms in them. These I examined a few days ago and could not find a cell of disease anywhere, nor in the colonies that I took out of these hives and put in other hives.

I sold \$237 worth of honey from the bees this year, and have a small amount left, which is selling rapidly. I sold the comb honey at 18½ cts. per section in lots of six; in smaller lots for 20 cts. straight. I sold the extracted for ten cents a pound if the

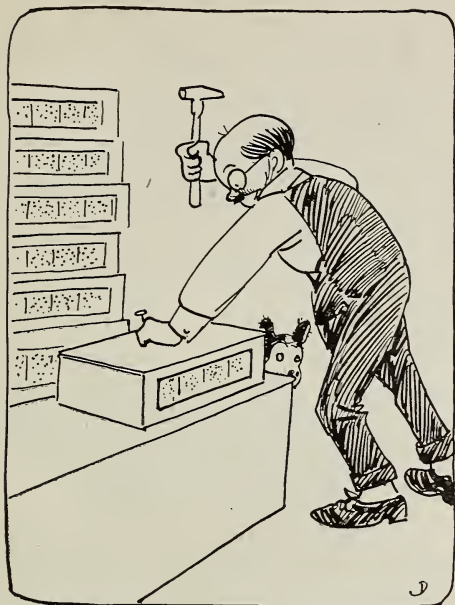
customer furnished the cans. Several asked me how I could afford to sell it at that price. One man came back the second time; and when I told him the honey was all gone he said, "Why don't you charge more for it?" I think I shall charge 12½ cts. for the extracted honey another year. I had a little over 770 pounds, and sold it in one month's time. I did not have to go out to sell it, for my customers all came to me and asked for it.

VALUE OF FULL SHEETS OF FOUNDATION.

Referring to the trap for destroying drones on page 743, August 15, this cannot help being a detriment to the worker bees going in and out. I believe in preventing drones from being reared in such large quantities by using full sheets of comb foundation. If a swarm is put in a hive having only starters there may be fully half drone comb built if there is a good honey-flow on. The drone-cells are likely to be in the lower half of the combs; and as the honey is stored in the upper half the queen does not have enough room to lay worker eggs, therefore there is nothing but a small force of old worker bees left in the fall. It costs only about 60 cts. to put full sheets of foundation in a ten-frame hive, and it takes only three to five days for a swarm to fill such a hive with brood, eggs, and honey. A swarm hived the latter part of June on full sheets of foundation gave me a surplus of 56 sections (four of these at 15 cts. each would pay for the foundation used), while a swarm I hived at the same time on starters never so much as entered the super at all.

Bradford, Ohio.

Heads of Grain From Different Fields



THE BACKLOT BUZZER.

BY J. H. DONAHEY

Aunt Miranda Catnip says Doolittle is right. When a colony decides to walk out there's no use in resorting to arbitration. She says, jes let 'em swarm.

Moving Bees Without Ventilation.

That it is not always necessary to give ventilation in moving bees may sound unorthodox, but I have found it practical and convenient.

When the time taken in moving is not too long, and the weather is fairly cool, the entrances may merely be plugged with wet rags. The rags must be soaking wet, however, and should be applied without wringing any of the water out. I have moved bees in this way when they had to be confined four or five hours, and they came thru in good condition. The colonies were of ordinary strength, and the weather was warm at first, but later a cold wind came up. In this case the moving was done on spring wagons, in the daytime; but the plan is not to be recommended when horses are used in daylight. At another time I moved some very strong colonies by automobile over three miles of rough road, using this plan with entire success.

The explanation seems to be that the bees get what water they need from the rags; and the entrance being dark they lie quietly on the combs instead of continually trying to get out, as they otherwise would.

A SAFETY CARRIER FOR COMB HONEY

Here is a method of packing comb honey for shipment by express or parcel post that

seems to meet the requirements of safety and economy very well. The principle involved is that, if you want men to do things right, make the right way the natural way; make it so obvious and easy that they will follow it unconsciously.

My crate is simply a tray four or five inches deep, a little larger than the case containing the honey, and having an upright piece at each end—on the outside—and fastened between these uprights a cross-piece which holds the case of honey firmly in place, and which may also be made to serve as a handle. There should be packing enough in the bottom so that the case will set only an inch or two into the crate.

When so arranged the package will not be placed on its side, because the weight of the honey would overbalance it; it will not be placed on its end for the same reason, and also because of the upright pieces; and it will not be placed on its top on account of the cross-piece and the very evident fact that it was not meant to be so placed. Clearly the only way it will set is firmly on its bottom, in which position it has three inches of packing under the honey to take up the shock. The honey will be visible thru the glass, if glass is used, and this will serve as a further warning against carelessness, while at the same time both glass and honey are protected by the projecting crate.

Doubtless the details may be improved, but a limited experience has convinced me that the principle is sound when applied to single-case shipments.

Torrington, Ct.

Walter H. Hull

Are All Workers of One Class?

Among the workers of one and the same colony there seems to me to be a difference, not only in color but in shape as well. Some appear to have a much more slender abdomen than others, and, especially with Italians, the end of their abdomen seems to be of a much darker hue of brown. Little importance is, perhaps, to be paid to this last fact, as it can be attributed to atavism. But the difference in shape is less easily accounted for, I believe.

Often for hours I have watched bees carrying in pollen, but I have never seen one of these slender workers come in with any, altho I believe they bring in honey. I have also noticed that, after a swarm is hived and has settled quietly in the hive, the guards at the entrance are mainly or exclusively composed of these slender bees, and, when disturbing a colony, these bees are the ones to fly out first and attack the intruder.

Is this accidental, or do I see wrong? I don't know. I don't possess the required instruments to make out whether or not there is any anatomical difference between these slender bees and the rest of the workers' force, neither do I have the training for such delicate work.

Can it be possible that, like the ants, the bees have their soldiers which have nothing to do with the rearing of brood?

J. H. J. Hamelberg.

Soest, Holland, Aug. 21, 1915.

Dr. Miller replies:

There is no such thing as classes among the workers of a colony, and at the same time they are divided into distinct classes. That is, each worker in the course of its life has the same duties to perform as every other worker, so that no worker is in a different class for life from any other worker. But the work of a worker is by no means the same each day of its life. When a week old its occupation is not the same as when a month old. So it is not in the same class when a month old as when a week old, and in that respect workers may be said to be in different classes according to age and occupation.

The two classes into which workers are commonly divided are nurses and fielders, a worker being a nurse until something like 16 days old, when it changes into the other class and becomes a fielder. Of course this varies according to circumstances. At the close of winter the nurses are many weeks old; and if there are no older workers in the hive to do field work a worker may become a fielder at five days old.

The abdomen of a bee may vary greatly in size, the parts telescoping into each other. Take a bee that has been confined in winter four or five months, and its abdomen will be three times as large as that of a bee that has died of starvation. A nurse bee stays mostly in the hive so that it is not important that it should be of light weight. It fills up with honey and pollen so as to prepare food for the babies, and its abdomen is well distended. When it turns to field work, it gets down to flying trim, with no excess weight. Perhaps that may account for the slenderness of the bees you have seen. C. C. M.

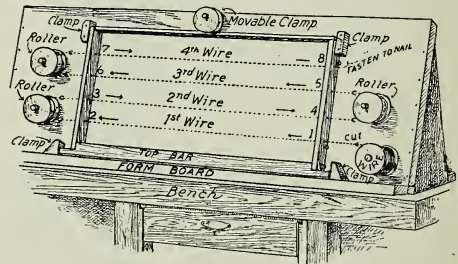
Simplex Wiring-device.

My wiring-board is a few inches wider and longer than the frame to be wired. It is fastened to a base at an angle for convenience in working. Stationary blocks or clamps are fastened in the right position as shown in the illustration, for holding the frames square, and in position while wiring. An oval-shaped movable clamp at the upper edge of the board turns down on the bottom-bar, and holds the frame in place. The whole board should be screwed or clamped to the thing so as to be perfectly rigid.

The spool of wire runs on a rod projecting out from the board. The wire as it leaves the spool is threaded thru several staples driven in the board so that when it is slack it will not unwind or kink. The wire after it leaves the staple runs thru hole No. 1, then across thru No. 2, around the lower left-hand roller, back to hole No. 3 and 4, around the roller at the right end of the board, then thru holes 5 and 6, around the upper left-

hand roller, and finally back to holes 7 and 8. At this last hole it is fastened with a nail.

The wire is easily tightened with the right hand on the spool, twisting the spool to the right, thus taking up the slack. The wire is first tightened while still on the rollers, then the spool is turned to the right after the wire has been slipped first from the upper left-hand roller, then the right-hand roller, and finally the lower left-hand roller. When the wire is at the right tension it is wrapped around a previously driven nail, the nail driven in and the wire cut.



The three rollers are of such diameter, and placed in such a position with reference to the holes in the end-bars that the wire passes around them in a direct line with the holes. The rollers are supposed to be only about an inch from the frame.

With this wiring device the frame is held rigidly, absolutely square. The wire is easily drawn to any tension desired, and cut only as used, so that there is no waste and no odds and ends. I think this is the easiest and best plan that has yet been devised. It makes wiring pleasant as well as profitable.

Oklahoma City, Okla. N. S. Gladish.

Honey Method of Introducing Simpler than Any Other.

During all of 1915 one of my colonies had a heap of dead bees before the hive continually. The symptoms resembled bee paralysis. I had a young queen ready to introduce; but when I looked for the old queen I found comb after comb solid with brood which showed that the queen was doing her part well, and I hadn't the heart to kill her.

This queen was still on the job July 15, 1916; and, strange to say, none of last season's trouble has been seen about that colony this season. However, the colony second in line from the one mentioned has had the same affliction ever since the opening of this season. There were positively no robbers, but there yet appeared to be a continual fight, the result being a heap of dead bees before the hive daily. Seeing no prospect of improvement I decided to requeen, which I did on July 15, pinching the old queen's head, then sousing the bees between the frames in the hive with honey-water, also giving the new queen a generous baptism, and running her down between the wettest frames. The whole operation (having every-

thing ready beforehand) did not take two minutes from pinching the old queen's head until the supers were back on the hive; and there have been since not enough dead before the hive to be noticed. I have not been able to figure the answer, but these are the facts.

The colony first mentioned having stored but little last season, and not promising much for this, was requested at the same time and in the same way.

This plan of introducing seems to promise well, is practicable for anybody, and as simple as can be. There is no "psychological moment," nor is there any necessity for any special experience or facility of judgment.

Lyndhurst, N. J.

B. Keep.

Why Did They Do It?

Bees sometimes do queer things. I discovered, on going thru hive No. 19 that it was hopelessly queenless, with not a cell of brood in any stage, and thinking it might have a virgin queen (which is not likely with no brood) I gave a frame of brood in all stages from the egg up, and within a few days there were 22 queen-cells well under way.

I at once sent for an untested Italian queen, which came by return mail in fine condition. I opened the hive, lifted out the frame of brood, shook about all the bees off, then cut out all queen-cells visible, replaced the frame of brood with the brood about all sealed, placed the cage with the queen and attendants on top of the frames, and closed the hive.

In 24 hours I examined the cage, thinking possibly they would have the pasteboard eaten away; but they had not done so. I removed it as per instructions, and as formerly done, and closed the hive for one week. I then removed the cage and found the queen laying well.

About one week after she commenced to lay I found in front of the hive for three consecutive mornings an aggregate of five virgin queens. This satisfied me of two things: That I had overlooked queen-cells, and that the introduced queen had been accepted.

Now listen: Just 14 days after I placed this queen in the hive I found her dead in front of the hive; and upon examination I found that she had almost filled two frames with eggs which were in about all stages of development. There was an inferior virgin queen running on the combs. Why in the name of common sense would they destroy this beautiful laying queen and accept an inferior virgin that might never lay? and where did this virgin come from so late? The old brood was too old to make a queen from, even an inferior one, and the new queen had not been in the hive long enough for a virgin to have been raised from the brood.

So I say bees do queer things. This has

broken me from giving a colony a comb with eggs when I am introducing a queen unless I introduce by some other way than the cage method, and immediately after the hive has become queenless.

Indianapolis, Ind.

J. F. Kight.

A Systematic Advertising Campaign.

The following editorial is a sample of what I furnish each of the local papers weekly. Each week during the year I get out a news item in different form. The cost of this is trifling, for I furnish each editor with honey free, and in return they put in my clippings or notices. Under this system of advertising, my sales run about four times greater than they were before.

The busy little honeybee is about the only mundane creature that hasn't taken advantage of the war in Europe to loaf on the job and thus cause an advance in price of its product. Beef and pork are almost out of sight, and never in history has the price of eggs been the case this year. Few people realize the food value of honey or it would be more extensively used on the table. It is the most important and healthful food product known to mankind, and is the only thing that has not kept pace with the high cost of living on account of an abundant local crop. Just think of a full gallon of twelve pounds for only \$1.25, and this will provide the system with more nourishment than twice the amount of any other diet, it being a digested sweet. Everybody should take a swat at the high cost of living by buying honey.

I also furnish the ministers of the city with honey free, and they help to boost sales among the country people.

Three to six girls, twelve to fourteen years old, canvass the small rural towns. I pay them a commission of 15 per cent.

I have already sold 600 gallons of honey, besides about 1600 pounds of comb honey.

Humboldt, Neb.

J. L. Gandy.

Yes, Furnish the Papers the Truth.

Enclosed is a clipping from the Cincinnati Post. On account of various explanations given, I sent in a more definite statement. When the daily papers once become interested in bees I think it a good idea to get a lot of free advertising by giving a bee-keeper's views.

WHAT DO YOU KNOW ABOUT BEES?

An argument has been raised regarding the habits of the bee. We were asked whether it ever sought honey from red clover. A farmer assured us that it did not, the honey in red clover being out of its reach. A subscriber writes that the Italian bees are able to penetrate the red clover for honey, but that the black bees do not. Has any one else any information to give about this?

In many ways honey is now used in place of sugar. As a small producer I have now more orders than at this time any other year. It seems that people are becoming more interested; but we must produce a good ripe article. This counts. If people are once misled it will take a long time to convince them to the contrary.

Cincinnati, O.

Henry Reddert.

West Virginia vs. Southern California for Bees.

I should like to get information about West Virginia as a place to live in. How much land in sweet clover would keep profitably 40 to 50 hives of bees?

Burbank, Cal.

A. H. Nash.

[The climate of West Virginia, of course, is a good deal milder than in the northern part of the United States next to and above the Great Lakes, but not as mild as it is in Burbank, Cal. For the keeping of bees or for a general mild climate you will not find any place in West Virginia probably equal to where you are. A good deal of territory in West Virginia is mountainous.

We are not able to give you a definite estimate as to the number of bees you could keep in a given area of sweet clover. Something would depend upon the locality—that is, the character of the soil and the climate. Ordinarily we should say that an acre of sweet clover would support a colony of bees. In other words, it would take about fifty acres of sweet clover to make very much of a showing in the hives, and really a hundred acres would give better results.—Ed.]

Martin and Bee-martin Very Different.

Page 717, E. G. Baldwin says "the pretty bee-martins are housed by my neighbors." Surely he must be mixing up martins and bee-martins. A bee-martin can't be made to live in a martin-house. It makes its nest out on the end of a branch. A martin and a bee-martin are no more the same thing than a chestnut and a horse-chestnut, or wheat and buckwheat. So far as I know, authorities all agree that the bee-martin does not ordinarily eat worker-bees, but eats drones, queens, and rosebugs, and drives away the enemies of small birds in general; so that it is a good neighbor except where there is queen-rearing, but a bad neighbor there.

If we could all agree not to call it bee-martin, but use the name by which I believe it is better known to the general public, "kingbird," there would be less danger of getting it confused with martins in our talk.

Steven T. Byington.

Ballard Vale, Mass., Sept. 7.

Bee or Purple Martin.

Some inquiry has been made in regard to martins eating bees. The so-called bee-martin, or king-bird (*Tyrannus tyrannus*) is known to catch bees, and I have seen them take them on the wing, but have never thought they did as much harm as good. They are easily recognized, as all of their tail feathers are tipped with white. They never nest in houses or boxes of any kind, as they always build their own nest, generally in a bush or low tree. Their eggs are cream-colored, with brown spots.

The purple martin (*Progne subis*) builds its nest in box or house, often several in one house, if it is divided into rooms. Their eggs are white. The adult male is a deep

shining blue-black all over. Females and younger males, probably including all under two years old, are of a dull purplish black above, and grayish beneath. I have never known or heard of their catching bees, and they are very useful.

THE YIELD FROM ALFALFA AT HIGH ALTITUDES

I have made some inquiry here, and conclude that the yield is at best uncertain above 5000 feet. Here in the valley, at an altitude of 4300 feet, the yield is excellent. Within twenty miles east of us the Sacramento mountains reach a height of 10,000 feet. I am told that the bees up toward the summit starved to death last summer.

THE LONG-IDEA HIVE.

I should like to say a few words in favor of the Poppleton "Long-idea hive." I did not know Mr. Poppleton, tho I lived within about forty miles of him for many years in Iowa. A near neighbor of mine, Mr. G. W. Webster, who also went to Florida later, knew Mr. P., and adopted his hive and system, extracting most of his honey. From him I learned the principle and adapted it to my own use, building hives to take L. frames, and using wide frames with separators to hold sections. I think queen-excluding division-boards would make success complete. In that climate we used these hives with double walls, the outer wall extending several inches higher, to admit of using a large chaff cushion in winter. I also used ordinary section-cases on top of frames.

Burdett Hassett.

Alamagordo, N. M.

White of Egg with the Syrup.

Some years ago a friend in Italy sent me by mail to North Germany 1½ lbs. of bees with queen, the first of March, not considering that at that time, as a rule, winter weather prevails there. I had an empty hive on hand and put in it five or six pieces of old comb (about an inch wide), as starters in the brood-frames, and gave sugar syrup—how thin it was I do not now remember; but at all events, the bees used no water. If I am not wrong, I fed up to the month of May, and gave every evening from two to six teaspoonfuls of milk and the white of an egg. It was very seldom that a bee left the hive. In June and July it was a very strong colony, and I had a rich crop from white clover and basswood.

Altho I have thought a good deal about this matter since coming to this country, I have not as yet had an opportunity to test this matter fully. The bees found, however, in this food all they required; and I think that in any case the plan should be tried out fully. For the small beekeeper it is too costly and requires too much time. But the professional queen-breeder will assuredly find this scheme of great value. The milk and egg should be renewed fresh every evening. I have at times myself drank or eaten what the bees left.

Gustav Kohnke.

Clio, Mich., Sept. 26.

A New Insecticide.

When I was able to obtain bisulphide of carbon at reasonable price (\$1.00 a gallon) I used it freely, altho there were some objectionable features connected with its use. When prices went soaring I went back to using sulphur, which is effective and quite inexpensive. We are now informed by the Department in Washington that this new insecticide, para-dichlorobenzene, is a compound deadly to insects, harmless to human beings, and has no pronounced odor which clings to fabrics like other insecticides. It is not very expensive. It may be bought in barrel lots at 15 cents a pound. Its use is very simple. It need not be sprinkled about in corners, etc., but just placed on top of the articles to be fumigated in an open can or other vessel. Para-dichlorobenzene is a colorless crystalline substance which evaporates quickly when exposed.

The new bulletin, No. 167, tells more about it, and may be had for five cents. The bee-keeping fraternity ought to make use of this new insecticide for the purpose of killing the wax moth and larvæ.

Naples, N. Y.

F. Greiner.

English Sparrows Catch Bees.

I have a swarm which a friend of mine in Ft. Smith, Ark., caught late in the summer. It has had rather hard luck in the last few weeks. The hive was in an open space on the lawn in the Union Station grounds. When the bees would come out on the alighting-board English sparrows would swoop down in droves and pick them off. In the A B C and X Y Z reference is made to bee-martins and butcher-birds catching bees, and I wondered if any one else had found that English sparrows do this. The colony was so depleted that only about a pint of bees were left.

R. G. Lowry.

Pittsburg, Kan.

[We have had one or two reports of English sparrows catching bees, but did not think the trouble serious. It would seem from your experience that at times they can be considered as an enemy of the honeybee.—Ed.]

Use Honey from the Same Hive.

On July 6 I transferred a colony from an old-style hive to a standard hive; and in making the change I lost the queen. I kept a sharp lookout for her, but failed to see her.

I filled four frames about half full with sealed brood-comb, and put half-sheets of foundation in the rest, and placed the new hive on the old stand. The bees did not all go inside the hive until the third day. On the sixth day I opened the hive, and, on lifting out the first frame, discovered the hive was queenless.

I ordered a queen right away, and on the evening of the eighth day it arrived. I introduced it on the ninth by the "honey method" described by Mr. Baldwin, and I must confess I was not on "easy street."

On examination the next day I found her on the very first comb, all cleaned up, and a half larger than when introduced the day before. On the third day, when I took a peep in the hive I found her laying.

I would advise those trying the honey method to use honey from the same queenless hive so the queen will have the scent of the colony. I used lots of honey, smearing her all over, and pouring some after her as she tumbled down between the frames.

East Butler, Pa.

W. E. Kiser.

The Daily Gain of a Hive on Scales.

The following is the daily gain of an average colony on scales. The weights were taken at night, about sundown. It is only the net gain for the day. The evaporation of the night before is not accounted for. The scales were not touched except at night. Of course in taking off supers the scales had to be changed. The first day of the record is May 24. It includes perhaps two to four days' gain—so small an amount I did not record it. The colony did not swarm. I have had a colony on scales many years, but this is exceptional in the heavy flow.

The first white-clover gain recorded May 24, 4 lbs. The following are the gains on consecutive days: 6, 5, 9, 5, 10, 13, 3, 6, 8, 7, 12, 10, 9, 7, 6, 3, 4, 9, 9, 7, 3, 12, 23, 0, 10, 16, 9, 8, 5, 13, 26, 16, 8, 8, 2, 16, 14, 10, 7, 4, 6, 4, 8, 16, 5, 2, 4, 1, 2. There probably were two or more days not accounted for. In rainy weather there was no gain. Several times it rained in the night, and was very wet until about noon. But the bees would make up in the afternoon all the night loss, and 5 or 6 lbs. net gain. The total gain was about 410 lbs. The honey is exceptionally fine—very white and clear, of heavy body.

The very heaviest gains were recorded after an empty super of extracting-combs was given. If the combs were given Monday, Wednesday would be the heavy day. The colony drew about four supers from foundation. The rest were empty combs.

Marceline, Mo.

Irving E. Long.

Honey in the Bread.

I saw something in a recent issue of *Gleanings* where a man who does his own cooking says he puts honey in his bread. Well, he has not got the "start" of me; for when I want the bread to be unusually good I take the trouble to put some honey in it; and when people praise my bread and say, "How good it is," I say, "I put honey in it this time." Beekeeper.

Paste to Stick Labels to Tin or Glass.

The following formula will do it:

Half an ounce silicate of soda; one ounce corn starch; one and one-half pints of water. Add the starch and silicate of soda to the water, and stir until uniform; then place the dish in another vessel of water and heat until the starch is gelatinized.

Bridgewater, Vt.

W. C. Raymond.

GLEANINGS FROM QUESTIONINGS

G. W. H., California.—I have seen several toads hanging around the hives in my apiary. I killed one and found sixteen bees in its stomach. I then killed another and found forty-one bees. Is there any remedy, aside from killing the toads?

A. In a good many places toads eat many bees by sitting at the hive entrance and licking them up as they do flies. If you find a number of them about your apiary you will probably find it necessary to place your hives on stands high enough so that the toads cannot reach the entrance.

J. F. A., Cleveland, O.—What makes comb in the lower part of the hive turn dark in the center?

A. The dark color is caused by stain from the various layers of cocoons left after the bees have been rearing brood. A comb will remain light-colored except for the deposit of propolis as long as no brood-rearing is going on; but the part of the comb containing brood always turns dark and finally the whole comb will be practically black. This does no harm, however, and the comb may be used year after year with absolutely no bad effects.

F. B., Bensenville, Ill.—Which is better for wintering bees—a cellar or a woodshed?

A. A building above ground is not suitable for wintering bees in confinement, owing to the fact that the temperature changes considerably. In a cellar the temperature is more uniform; but for best results it should not go below 40 nor above 50, for any length of time, and there should be good ventilation without excessive moisture.

The shed would answer all right provided you had openings cut in the side so that the bees could have an open entrance to the outside at all times. It would be well to provide packing around the hives inside the shed in order to confine the heat.

W. F. M., Glenwood, Mo.—What makes the bees attach the combs in my sections to the separators? When I remove the sections from the super it tears a hole in the cappings where I separate them from the separator.

A. Certain strains of bees are worse in this respect than others, but the building of brace-combs is quite apt to be indicative of an overcrowded condition of the hive. It is true that you cannot always supply extra room by way of comb-honey supers at exactly the right time; but at the same time, by being careful to supply additional room before the first super is entirely finished, you can overcome at least some of this nuisance.

If full sheets of foundation are used and the hive is not absolutely level from left to right, sometimes a sheet will sag over until

it touches the separator. Under such circumstances the bees will always attach the comb to the separator.

J. S., Bandon, Oregon.—In order to have less wax in a section of comb honey, and just that much more honey, why not use drone foundation instead of worker?

A. A few beekeepers use this in sections; but it produces a rather peculiar effect, making the honey look coarse. It is for this reason that so few use it.

As a matter of fact, it is a question whether any one would notice the difference in the amount of wax in the comb when eating the honey, for counting the midrib and the cappings there is nearly the same amount of wax in a section of drone comb as in a section of worker comb.

H. B. Y., Buffalo, N. Y.—What would be a fair price for a full ten-frame colony in first-class condition in a double-walled hive well supplied with winter stores—good combs built from full sheets of wired foundation?

A. It is difficult to give a definite answer to this question, for the price that the seller gets is not so much what the equipment is actually worth but what the buyer will pay. In the fall of the year one has to consider that the buyer runs some risk in losing the colony thru the winter.

A good deal depends also on the queen. With a good young queen of a vigorous strain the colony ought to be worth around \$10.00 or \$11.00, or possibly even more. Whether a buyer would pay this is another proposition.

Good straight combs built from full sheets of wired foundation ought to be worth from 25 to 35 cts. apiece, sold separately.

O. C. E., Steubenville, Ohio.—What is the best way to move an apiary fifty yards?

A. A very safe way to accomplish the move that you refer to is to carry the bees a couple of miles into the country, leave them for a week or so, and then bring them back, placing them wherever you desire. There is then very little danger that the bees will mix up badly or get into the wrong hive.

Another plan, which is somewhat less work, but which is a little more risky, is to move the whole apiary in the late evening, placing the hives wherever you want them. Take away everything that looks like a hive on the old location. Stand boards in front of each hive in the new location; and the next morning, before the bees begin to fly, pound on each hive vigorously and smoke the bees considerably so they will fill up with honey. Then when they come out to fly they will be more likely to notice that a change has been made, and they will mark their location. We have moved apiaries short distances in this way with very little loss.

A. I. Root

OUR HOMES

Editor

Can the Ethiopian change his skin, or the leopard his spots?—JER. 13:23.

Then Paul answered, What mean ye to weep and to break my heart? for I am ready not to be bound only, but also to die at Jerusalem for the name of the Lord Jesus.—ACTS 21:13.

Let us not be weary in well doing; for in due season we shall reap if we faint not.—GAL. 6:9.

I have before remarked that I was one of a family of seven. My older brother was of a rambling disposition. When he was in his teens he would go off and be gone for days and even for weeks. He wanted to see more of the world, and, as a consequence, he found employment with ungodly men—some of whom, it seems, took pains to destroy the faith that a good mother worked and prayed to implant. Even after he was married and was the father of grown-up children he was restless and uneasy. He was all over the United States and even away down in Mexico; and later he bought a ranch near San Diego, Cal. After the death of his first wife he married the second time, and died not long after the birth of two children; and when these two children were of only tender years their mother died also, and for some time they were left only partly cared for in the city of San Diego.

When the civil war broke out, my brother, in accordance with his nature and disposition, enlisted, and became an officer in the army. After the death of both father and mother it was deemed advisable to have the children go to the Soldiers' Home in Xenia, Ohio. I have before mentioned the buildings, extensive parks, and other arrangements made for the best care of the children, especially orphans of the soldiers. In fact, it has been for years called "the Children's Home."

Well, the boy, Homer Root, seems to have inherited his father's disposition. He could not stay contented very long in one place. I am sorry to say that, while in California, without father or mother, he learned to smoke cigarettes, to use bad language, and to be untruthful. By the way, some good authority has said that, as soon as any boy begins the use of cigarettes, he becomes untruthful. It is a part of the cigarette business. Well, this nephew of mine did not seem to get along very well at the Soldiers' Orphans' Home, and then came here to work for us in our factory. Perhaps I have been unfair in not speaking of the boy's good qualities. He had a love for mechanics, and especially for electricity; but, like his father, he did not seem to like being shut up in any shop,

office, or factory. He took for a time a particular liking for the machine-shop; but soon became uneasy, and wanted to go off on the railroad where he could be outdoors, and work as an assistant to their electrician. I think he did fairly well on the railroad; but he soon wanted another change, and the first thing I knew he had enlisted in the navy and was on board of the warship Arkansas for a cruise of three years. The strictness in the navy seemed to do him good, and he made a pretty fair record. I have mentioned him frequently in these Home papers, and have given place to one or two letters from him, especially those pertaining to the gyro compass. Well, neither this boy Homer nor his father before him seemed to take much of a liking for church or Sunday-school, Christian Endeavor, nor the Y. M. C. A. They did not seem to come much along his line. During the past years I have kept more or less in touch with him, and not only wrote him letters but prayed for him; but I am afraid that much of the time I prayed without very much faith. I am afraid, also, I had given up thinking that he would ever have much to do with *Christian* work in any form.

Dear friends, in years past I have several times spoken of my "happy surprises;" and I think I have said that a Christian who does his duty, and holds unswervingly to the straight and narrow path, will, at least occasionally, meet with "happy surprises." Well, one of these came some time last winter. It was a letter from my nephew of whom I have been speaking. Perhaps I should mention first that he wrote me, perhaps a year before, saying that he was thinking of getting married to a young lady he had known at the Home in Xenia. After getting the particulars I advised him to get married, even tho some of his relatives advised otherwise. Well, now for the surprise. While in my Florida home, as I have said, I received a letter reading something as follows:

Dear Uncle:—I would give almost anything in the world to have you hear a minister preach here in Springfield," etc.

It was a surprise to me to know that the boy was attending church at all; and the idea that he should ask *me* to go to church with him was almost a huge joke. I gave a shout of surprise, and forwarded the letter to the good minister whose name he gave. I took it that he must be an evangelist, something like Billy Sunday; and so I addressed my letter to the "Reverend Mr.

Rourke, Evangelist, Springfield, Ohio." I received a prompt reply; but brother Rourke told me he was not an evangelist, but just a regular Presbyterian preacher; and he said, furthermore, that Homer was bringing more recruits into their men's Bible class than any other member. Did you ever? Just think of it—this boy whom I was worrying about was in regular attendance at a men's Bible class, and bringing in others. Of course I urged my nephew to follow the leadership of the good minister of whom he thought so much, and become a member of that Presbyterian church; and I furthermore added that, when I should hear the good news that he was an enrolled member, I would go and hear the minister he had learned to think so much of. By the way, this good pastor said something like this in his letter to me:

"Mr. Root, you cannot think how much good it does the pastor of a church to get such a letter as yours containing the one from Homer. When defeat and disappointment seem at times to be almost the only result of a clergyman's labor such letters as yours and *his* are like an oasis in the desert. It gives me an inspiration to go on."

One Saturday morning in September I started on my trip to Springfield. It had been some time since I had seen my nephew; and the more I talked with him and became acquainted with the family of his good wife, the more I was impressed with the transformation in the wild and careless boy of a short time before. He looked different and acted differently, for he is now a bright, manly *Christian gentleman*. When he introduced me to the different members of that great Presbyterian church, and seemed to be recognized on all sides as *one of them*, I could not help saying mentally, "Thank God, thank God." It brought to my mind vividly a verse in a familiar hymn that comes in something like this:

His power, and his alone,
Can change the leopard's spots
And melt a heart of stone.

I questioned a good deal about Homer's wonderful change. If I am correct about it, the good young wife urged him repeatedly to go to church with her just once. Perhaps his first attendance was at the men's Bible class. He became interested. This devoted minister seemed to have a faculty, not only for *getting* hold of young men but of *holding* them; and in a little time Homer was inviting his shopmates to go to the class. Now here is the point, friends. When you get a man or boy to work *bringing in recruits* you will very soon have him "born into the kingdom."

Away out west there is a town or city

(it may be a *city* now) called Anacortes. It was built up, or at least was started, in one year, and, as a matter of course, saloons were galore on both sides of the street. One of the prime movers in starting the town had the good sense to recognize that something *besides* saloons is needed to build up a community. Then this man commenced to talk about a church; but on all sides they considered it a big joke, and again and again his friends would say, "*You scheming for a church? Why, what has got into you? Turned pious?*"

He said he had not particularly turned pious, but in his opinion they could not have a nice and enterprising town without a church. Then the next thing was to get a preacher. So this man commenced hunting for one. He finally met a minister on board a steamer, and told him he would have to stop at Anacortes and preach a sermon. The minister demurred, saying, "How about an audience?" Our real-estate man said he would guarantee an audience if the minister would stop over one trip; and then he went about going thru the town, inviting everybody to come and hear this minister *preach*. They had some trouble in finding a room big enough and in getting seats. But our vehement friend carried the day, and all of them heard a sermon. Do I need tell you the outcome? Altho he had not planned in the outset anything of the sort, he soon became a devoted Christian worker. How could he invite people when he himself was outside the fold? And, my good friends, it will work so every time. Get to work; get these boys and girls at work doing something good and useful. Get them interested in building up churches and Sunday-schools, and in doing away with saloons and brothels, and *God* will take care of the harvest.

Well, of course I was greatly interested to see this man of whom I had heard so much conduct the Bible class. The lesson was somewhere in the book of Acts; and the incident referred to in our second text, where Paul said he was ready not only to go to prison, but he was ready to die for the Master. Our leader, in commenting on the incident, asked how many there were ready to go to jail for righteousness' sake. He said that he himself was ready to go to jail any minute rather than to compromise with the powers of darkness. I could honestly say amen to this, and I did come near saying it; but in a minute more I was glad I did not. By the way, friends, I have heard a good many different preachers of the gospel in the past thirty or forty years; and it is rare that I hear a sermon where I do not find occasion to give some point in it, somewhere, a hearty indorsement by

some sort of amen. In fact, I do not remember that I have ever, with few exceptions, heard anything from any minister that I was not ready to indorse and follow the speaker; but on this occasion I "met my match." After the good pastor had said he was not only ready to go to jail but to go to death he added something like this:

"Yes, friends, I am ready to go to jail, and stay there, and *rot*, rather than compromise with the powers of darkness."

I did not dare say *amen* to that last sentence. It frightened me. I have for years past felt that I was ready to die as a martyr, if need be; but I am afraid I was a good deal like poor Peter, who was ready to fight and ready to be killed, if need be; and he struck out with his sword in order to give the Master to understand that *he* was not afraid; but when the command came to put up his sword and do nothing his courage failed; and when just a girl suggested that he was one of that fanatical crowd his courage all oozed out, and he suddenly turned a cowardly coat and enlisted in the service of the Devil. It is very hard for me to sit still and wait for *anything* or for *anybody*. I want to be *doing* something; and when the suggestion came that I might be called upon to "die still and rot," perhaps as many a devoted soul in ages past has been required to do, I backed down like Peter.

Again, in the sermon later the minister said something like this:

"You may be aware, friends, that there has been a good deal of talk of having moving-picture shows in our great cities looked after. A committee has been appointed in the city of New York, and they report that 80 per cent of the films in common use were demoralizing. Their tendency is to lead our boys and girls down to shame and crime instead of lifting them up or building them up."

Let me pause a moment right here. In a recent daily, mention is made of a boy who set a building on fire; and the only reason given for doing so was that he saw the same thing done in a picture show; and the show gave the whole thing in a way that would make the boy think it is a great thing to make a stir in the neighborhood by such an act. Let us now get back to the sermon.

The speaker said that, rather than be engaged, directly or indirectly, in anything that would lead our boys and girls down to crime and ruin he would be willing to be nailed up in his coffin; and then I was ready again to say "amen." I would rather die than to live having the guilt rest

on my conscience that I had been instrumental in the spiritual death of any boy or girl. But the speaker in his next sentence took me right off my feet as before. The sentence was this:

"I had rather be nailed up in my coffin, and be *buried alive*."

Let us now go back to Peter once more. When the Master said to his little crowd of followers that every one of them would desert him in time of trial, Peter boldly declared, "Tho I should die with thee, yet will I not deny thee." Poor Peter! Little did he know the power of Satan. And somewhat in like manner little did I know or realize what a coward I am, after all. I had been thinking I could consent to death—that is, a speedy death, or such a death as we ordinarily witness—for the dear Master's sake; but, oh dear me! I did not contemplate "being nailed up, and buried alive."

Just one more illustration in closing, about our transformed young relative. In a shop where he works (electrical works, of course) there is a young man who had been following Ingersoll and Tom Paine, and taking some periodical that ridicules the Bible, Christian religion, etc. Homer invited this young man to come to their Bible class. The reply was something like this:

"Bible class? Do you mean you want me to go to '*Sunday-school*'? Not much." But Homer was not to be put out, and so he invited him again, only to meet with sarcasm and ridicule; but after he followed it up Sunday after Sunday this friend of his finally consented to go *once*. Homer told him if he would go just once and listen to Mr. Rourke, and then did not feel inclined, he need not go any more; and then Homer added, "Now, uncle, what do you suppose happened? Why, the time he went first was away along last spring; and he has been there every Sunday since."

Oh, yes! there is still one more thing I must tell. Before the class opened, the pastor said, "Who is absent today whom we have a right to expect to be here?"

A bright young man stood up and mentioned a name.

"Can any one tell why our friend is away this morning?"

Somebody answered, "He is out of town," and so on with several names. Finally somebody was mentioned, but no person could give any reason for his absence. Then came the question, "Who will volunteer to hunt up our friend and ask why he is not with us today?"

Some one replied very promptly, "He and I are quite well acquainted, and I will

find out and report the reason of his absence."

There, friends, is a suggestion for Bible classes, men's brotherhoods, Y. M. C. A. associations, etc. Whenever a pupil finds he has been missed and is inquired after, he will be pretty sure to come next time. Now a word in closing.

If you, my dear reader, have any young friends or relatives, a boy or girl who seems to be getting out of the straight and narrow way, do not be wearied in pleading or praying for that one. "Be not weary in well doing, for in due time we shall reap if we faint not."

REPORTS ENCOURAGING AND REPORTS DISCOURAGING.

Our older readers will remember that years ago I used to have two departments headed as above. Objection has been made to giving these great yields of honey because it tends to give beginners the idea that keeping bees is a ready means of "getting rich quick." But if we go to the opposite extreme, and give only reports *discouraging*, this would be manifestly unfair. Well, several times lately I have urged that our journal give a little more space to reports *encouraging*. Of course I do not as a rule have much to do just now with the department of bee culture. Well, only yesterday, Sept. 8, I was getting ready for my after-dinner nap when one of my sons-in-law called out, "Say, father! Don't you want to come over to the honey-room and see them unload a car of extra-fine honey?"

Of course, I went over. The first thing that pleased me was that there was not a trace of a leaky package in the whole carload. There was not a drop of honey on the bottom of the car, nor anything sticky anywhere. A screw cap was loosened from one of the cans, and some slips of pine wood passed around for the different members of the firm to sample the 20,000 pounds. Just as soon as I tasted it I uttered an exclamation of delight. In answer to my question as to who produced that big lot of extra-fine honey, Mr. Calvert replied, "Mr. Sowinski." Well, I was pleased again to be told that a foreigner (at least his name would indicate such) was the successful beekeeper, instead of some old downeast Yankee whose name has, perhaps, been before the beekeeping world for years past. I was also told that this was only about half of his crop of 40,000 lbs., and that the whole yield was from between 300 and 400

colonies. When I wanted to give the full name and address with particulars one of our men who makes it his business to hunt up and buy honey said our good friend who produced the crop would object to any report being made that would give his locality.* This matter has come up many times before, where somebody gets a great yield, and a great lot of beekeepers begin to camp all around him, very likely to discover later that the *man* and not the locality gets the honey by the carload. Let me digress a little.

A few days ago at one of our board meetings the question came up as to the purchase of a new printing-press to print honey-labels. By the way, I think we are having more orders for honey-labels just now than ever before since GLEANINGS was started toward fifty years ago. While I write, the new press is running off beautiful labels in colors at the rate of 2800 sheets an hour—the number of labels on each sheet depending on their size, of course. As usual I objected a little to the purchase of a new printing-press. I thought we had presses enough, and some that were not running. But this new press takes care of the label work largely. It is a *self-feeder*, and has already run off 2900 sheets without a stop or a failure.† As I write, it is printing 29 labels at once, or 81,200 an hour. My impression is that when people get a taste of this fine honey I have been speaking about it will keep that new press pretty busy printing labels to put on the bottles. Just a few days ago I got a glimpse of a nice little bottle of honey for only *five cents*, and I was delighted to think one could get about all the honey that is good for him, perhaps at a restaurant or a lunch-counter for "only a nickel." Mr. Calvert threw cold water on my speculation, however, by saying that the way glass bottles are advancing (on account of the war) he was a little afraid "the more we sold the worse off we would be."

Well, friends, it rejoices my heart to know that my prediction to the worrying friends (when I first got crazy about the possibilities of bee culture) toward fifty years ago, is coming to pass. At that time I said, "Now don't you worry, my good friends and relatives. The time is coming, and I expect to live to see it, when honey, like butter and eggs, will not only be on sale at every corner grocery thruout our

* This beautiful honey is supposed to have come largely from the wild red raspberry.

† By the way, I forgot to mention the fact that if any accident happens, say when a sheet gets in wrong, the press stops promptly of its own accord until somebody sets the matter right.

land, but it will also be on sale *every day in the year.*" My prediction has not yet been quite fulfilled, but it is "coming, coming, coming." Milk and honey ("uncooked

food") straight from the loving hand of the great Father, is going to take the place of intoxicants and stimulants; and may God hasten the day.

TEMPERANCE

SOME WORDS OF WISDOM FROM AWAY OVER IN SWITZERLAND.

I take it for granted that the readers of GLEANINGS, or at least the greater part of them, are going to vote dry in the coming election, or at least they will vote to put men into office who are not afraid to stand up before the world for prohibition. With this in view I wish you would not only read the little clipping below from the *Union Signal*, but get every voter, as far as possible, to read it and ponder on it before they cast their vote on Nov. 7.

THE TOLL OF THE BREWERY.

Such horrors as a great modern joint-stock brewery perpetrates are unrivaled in the whole world's history. Men in past centuries were made chattel slaves. But the slaves kept their health. Men have been killed by thousands; but the children of the murdered remained strong. Now they make slaves of them and murder them at the same time. They kill them together with their children and *children's children*. They kill them slowly; they torture them slowly to death.—*Dr. Von Bunge*, University of Basel, Switzerland.

GOUT, SCROFULA, SOFTENING OF THE TISSUES, AND TOO MANY OF OUR CRIMINALS COME FROM BOOZE.

See the following, which we clip from the *Kansas City Star*; and it comes from so good an authority as President Poincare:

WILL FRANCE GO DRY?

The leading men of France, headed by the president of the French republic, are engaged in a campaign against alcoholism. Soon after the war began, the French government prohibited the sale of absinthe. Now in every postoffice in France the following poster appears, by order of the minister of commerce and posts:

THE ALARM!

FRENCH SOCIETY FOR ACTION AGAINST ALCOHOLISM
Honorary President, M. Raymond Poincare.

Drink is as much your enemy as Germany.

Drink since 1870 has cost France much more than the present war.

The cordials of your parents reappear in their offspring as great hereditary evils. France owes to wines a great many consumptives, without counting sufferers from gout, scrofula, rickets, premature softening of the tissues and too many of our criminals.

Drink decimates France.

Mothers, young men, wives! Up and act against drink, in memory of those who have gloriously died for the fatherland. Thus you will accomplish a mission as great as that of our heroic soldiers.

It looks as tho several of the older nations of Europe may be freed from the curse of drink, notably France and Russia, and possibly England, long before the United States joins the list of dry countries.

From the above it would appear that if France gets rid of drink as a result of the war she is going to be the gainer in the end; and is it not about time that the whole wide world wake up and do likewise?

"A LOT OF MONEY WASTED."

We clip the following from Bryan's *Commoner*:

The *American Grocer* recently estimated that the drink bill of America now exceeds one billion and seven hundred millions annually. As only about one person in four uses liquor, this means \$90 for each. That's a lot of money to waste, especially as poor men are the chief sufferers.

CROOKS SHUN A DRY TOWN AND A DRY STATE.

Morden Ward, in the *Detroit Times*, declares that crooks have been flocking from dry states into wet ones, and that self-defense will force Michigan to adopt prohibition. "A crook hates a dry town, for there is no place to hide," he says. "Closing the saloon naturally drives out all of the professionals." —Methodist Temperance Board.

"IT WERE BETTER FOR HIM THAT A MILLSTONE WERE HANGED ABOUT HIS NECK."

Mr. Root.—I am enclosing a clipping concerning a king who is setting an example that will destroy others, and it seems to me as if it might have been better if he had been drowned. Surely the influence for wrong is very great.

Chrisman, Ill., Aug. 1.

GEO. W. FAIR.

The clipping referred to above comes from the *Terre Haute Star*. It reads as follows:

KING THANKS SCHOOL BOYS WHO HELPED RESCUE HIM.

COPENHAGEN, July 30.—King Christian received at the castle today two school boys who helped to rescue him last week when a boat he was sailing was upset near Aarhus, and presented them with cigarette-cases.

After expressing his thanks to the boys, the king and queen drove to a restaurant to thank the proprietor, who discovered the king's perilous position and gave the alarm. The king presented him with a diamond ring.

Just as soon as I got hold of the above it occurred to me that our Lord and Master *did* say of a certain class of people, "It were better for him that a millstone were hanged about his neck and that he were drowned in the depth of the sea." Now the question arises, "What class of people does the above severe arraignment refer to?" The fore part of the verse I have already quoted tells what it is as follows: "But whosoever shall offend one of these

little ones which believe in me." Perhaps some of the friends will think that our good brother who sends the clipping, and myself, are pretty severe. But when we take into consideration what cigarettes are doing for the youth of our land, are we not right about it? It is true the conditions laid down by our Lord are in regard to offending "little ones which believe in me." I suppose it refers particularly to those who go out of their way to spoil the faith of some child who has already started to serve the Master. Suppose, for instance, some wicked man should stop a group of boys who are on the way to Sunday-school and tell them that their religion is only a superstition, etc., and turn them away. I can recall instances in my own life where this thing has been done, where a grown man stopped his work just in order to *poison* the minds of children.

Where does the cigarette come in here? Ask our teachers or any one who has charge of children, and I think they will all say that no other one thing will lead a boy astray more quickly than encouraging him in the cigarette habit. May God speed the day when *the whole wide world* shall be awakened to the real harm the cigarette is threatening to do to the *boys* of the world.

TOBACCO AND TUBERCULOSIS.

The following, from the good doctor who answers questions in the Health Department of the *Cleveland Plain Dealer*, is suggestive:

HAVE HIM STOP SMOKING.

J. S. B. writes: "My son, who is 20 years old, has tuberculosis. He likes to smoke a little. Is it harmful, and would you advise him to stop?"

ANSWER.

A youth with tuberculosis has enough to combat without adding the poisons from tobacco smoked even in moderation. Have him stop.

Please notice that this good doctor suggests, if he does not say so right out, that every tobacco-user is handicapped more or less. He has got to scrape up sufficient vitality to overcome the poison, even when used "in moderation," as suggested in the above. Please notice also that the tobacco-user is not only handicapped in his ability to resist disease, but he is also handicapped more or less in "efficiency." If you want to be at your very best, for yourself or for humanity, and for the children who are coming along after you, cut out all sorts of stimulants, and even "tobacco" in "moderation."

"HOBOS"—A NEW TRICK.

Just a few days ago a fairly well-dressed man came limping up to the door as if he could hardly walk; and the expression on

his face indicated that it gave him great pain even to hobble along. He piteously asked Mrs. Root if she could not give a poor lame man a little lunch to enable him to get to his friends. Now, Mrs. Root has for some time past (perhaps because I insisted on it) offered these fellows work but no lunch. This man, however, was unable to work, and so she spent quite a little time in picking up for him a good meal. But imagine her surprise to see him start off with his lunch at a very good gait without a trace of his former lameness. This aroused her curiosity, and so she watched him until she saw him (when he supposed he was fairly out of sight) throw away the greater part of the food she had given him. It probably was not *good enough* to suit him.

I give this bit of experience because I know there are a good lot of women among the readers of GLEANINGS who as a rule have enough to do without encouraging tramps; and I hope that, after they have read this, they will not be humbugged as Mrs. Root was. The incident seems to indicate that tramps are getting poor encouragement, and that they *usually* get a cold reception unless they put up some new "stunt" like the above.

COTTAGE CHEESE—SOMETHING FURTHER IN REGARD TO HOW TO MAKE IT.

The big advertising that has been given to sanatogen has called attention to cottage cheese, especially since Prof. Wiley has told us that cottage cheese is practically the same thing as the much-lauded sanatogen. Well, here is something from a lady who has been for many years a friend of GLEANINGS, in regard to how to make cottage cheese. By the way, we find it in our market for only 10 cts. per lb., and it is also offered at the same price away down in Bradentown, Fla. When I can get hold of it I prefer it with my fruit supper to the regular cheese which costs three times as much or more. Now for the directions as to how to make it.

In GLEANINGS for March 1, p. 214, Mrs. Root should have said more for a new hand, and also some old hands, as to how to make "Dutch cheese," cottage cheese, or "smear kase." It should be stirred often to heat even—just enough for the whey to separate from the clabber, and hang in a jelly-bag until cool. If too hot it will not be healthy. Fanny Field, the old-time poultry woman, would not make it too hot for her chickens. It is best when the clabber first thickens—not old, sour, or bitter. Some use a thermometer to heat, and season with cream, butter, sugar, salt, pepper, cinnamon, or nutmeg. It takes practice to make it perfect, and then it is good without anything. If you pour hot water on, and then stir cold water it answers for small quantity.

Watertown, O., March 10. M. L. DEMING.

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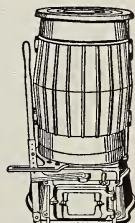
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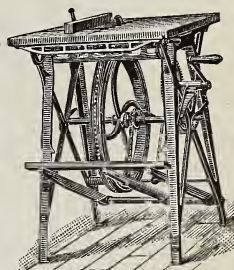
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Choice new-crop white-clover extracted honey in new 60-lb. tin cans the bargain of the season; sample, 10 cts. D. R. TOWNSEND, Northstar, Mich.

FOR SALE.—A1 sweet-clover honey in 60-lb. cans, two cans to a case, 7½ cts. per lb., f. o. b. cars. JOE C. WEAVER, Cochrane, Ala.

FOR SALE.—Fancy white comb honey, 13½ cts. per lb. In crates of 8 cases. JULIUS GENTZ, Wabeno, Wis.

FOR SALE.—Clover honey of finest quality in new 60-lb. cans at 8½ cts. per lb. Also fancy and No. 1 clover comb honey, 4¼ x 1½ sections. MARTIN CARSMOR, Ruthven, Iowa.

FOR SALE.—Raspberry, basswood, No. 1 white comb, \$3.00 per case; fancy, \$3.25; 24 Danz. sections to case; extracted, 120-lb. cases, 9 cts. per lb. W. A. LATSHAW Co., Clarion, Mich.

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RASPBERRY HONEY.—Thick, rich, and delicious. Put up for sale in 60-lb. tin cans. Price \$6.00 a can. Sample by mail for 10 cts., which may be applied on any order sent for honey. Write for price on large lots. ELMER HUTCHINSON, Rt. 2, Lake City, Mich.

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A small farm in California will make you more money with less work. You will live longer and better. Delightful climate. Rich soil. Hospitable neighbors. Good roads, schools, and churches. Write for our San Joaquin Valley illustrated folders free.

C. L. SEAGRAVES, Industrial Commissioner A. T. & S. F. R'y, 1934 R'y Exchange, Chicago.

Fifty farms, money-makers, any size, free list.
FRED TATE, Huntington, Tenn.

\$4500 ideal bee location for \$1500. 24-page description free. W. H. GARDNER, Roxabel, Ohio.

FOR SALE.—Apiary and 160 acres of land, cheap. Old age compels. JOHN G. SOLDAN, Oberlin, Mich.

THE SOUTH FOR FARM PROFITS. Why not look for a farm home in the South? Farm lands, for time and money invested, pay larger profits than elsewhere. Two to four crops a year, good yields; best prices for products. Good locations in healthiest, most pleasant districts, \$15 an acre up. Write for our literature and the special information you wish. M. V. RICHARDS, Ind. and Agr. Comm'r, Room 27, Southern Railway, Washington, D. C.

WANTS AND EXCHANGES

WANTED.—To rent bees in the Salt River Valley. Have had six years of experience in the Buckeye Valley. A. J. ROSS, 2209 N. Monroe St., Phoenix, Ariz.

WANTED.—To buy a second-hand buzz-saw for power, used; must be in good repair, and reasonably cheap. DANIEL DANIELSON, Brush, Col.

WANTED.—To furnish every beekeeper within 500 miles of Boise, Idaho, with the best and cheapest bee supplies on the market, *quality considered*. Send me your order or a list of your requirements for 1916. Our catalog and price list will be mailed to you free. Order early and get the discounts.
C. E. SHRIVER, Boise, Idaho.

BEEES AND QUEENS

Finest Italian queens. Send for booklet and price list. JAY SMITH, 1159 De Wolf St., Vincennes, Ind.

Well-bred bees and queens. Hives and supplies. J. H. M. COOK, 84 Cortlandt St., New York.

FOR SALE.—90 colonies bees with or without 4 acres land adjoining this town.
S. FITTS, Stronghurst, Ill.

FOR SALE.—300 to 500 colonies in A No. 1 condition in famous Hagerman Valley, where failure is unknown. Address J. E. HANKS, Hagerman, Ida.

Italian queens bred for their honey-gathering qualities. One, \$1.00; six, \$5.00.
EDITH M. PHELPS, Binghamton, N. Y., East End.

My choice northern-bred Italian queens are hardy, and will please you. Orders booked now for spring delivery. Free circular. F. L. BARBER, Lowville, N. Y.

FOR SALE.—Golden Italian queens that produce golden bees; for gentleness and honey-gathering they are equal to any. Every queen guaranteed. Price \$1; 6 for \$5. WM. S. BARNETT, Barnetts, Va.

Leather-colored "Nutmeg strain" queens, \$1.00; \$10.00 per dozen. Tested, \$1.50. Special price on large lots by return mail.

A. W. YATES, 3 Chapman St., Hartford, Ct.

FOR SALE.—Italian bees, 1 lb. with queen, \$2.25; one-frame with queen, \$2.00. Queens, 75 cts. each. Safe delivery guaranteed; 30-page catalog with beginner's outfit for stamp. THE DEROY TAYLOR CO., Newark, N. Y. (formerly Lyons).

My bright Italian queens will be ready to ship April 1, at 60 cts. each; virgin queens, 30 cts. Send for price list of queens, bees by the pound and nucleus. Safe arrival and satisfaction guaranteed.
M. BATES, Rt. 4, Greenville, Ala.

Queens for requeening. Best on market. One untested, \$1.50; 12, \$12.00; one tested, \$2.00; 12, \$18.00; one select tested, \$3.00; 12, \$24.00. Special low price on 50 or more. Write. Safe delivery and satisfaction guaranteed. THE J. E. MARCHANT BEE & HONEY CO., Canton, Ohio.

Phelps' Golden Italian Queens combine the qualities you want. They are great honey-gatherers, beautiful and gentle. Mated, \$1.00; 6, \$5.00; tested, \$3.00; breeders, \$5.00 and \$10.00. C. W. PHELPS & SONS, Wilcox St., Binghamton, N. Y.

Golden Italian queens that produce golden bees; the highest kind, gentle, and as good honey-gatherers as can be found; each, \$1.00; 6, \$5.00; tested, \$2.00; breeders, \$5.00 to \$10.00.
J. B. BROCKWELL, Barnetts, Va.

QUEENS.—Improved three-banded Italians, bred for business, June 1 to Nov. 15, untested queens, 75 cts. each; dozen, \$8.00; select, \$1.00; dozen, \$10.00; tested queens, \$1.25 each; dozen, \$12.00. Safe arrival and satisfaction guaranteed.

H. C. CLEMONS, Rt. 3, Williamstown, Ky.

TENNESSEE-BRED QUEENS.—My three-band strain that has given such universal satisfaction for over 40 years. Orders filled promptly or money returned by first mail. 1000 nuclei in us. Tested, in June, \$1.75; untested, \$1.00; in July, \$1.50 and 75 cts. Postal brings circular.

JOHN M. DAVIS, Spring Hill, Tenn.

HOLLOPETER'S honey-gathering strain of Italians are now at their best. This strain has a record of 100 lbs. more honey per colony than the average colony. Safe arrival by return mail. Untested queens, each, 75 cts.; 10 for \$6.00; 20 for \$10.00. Tested queens each, \$1.00. 1 lb. bees with queen, \$2.00. We are booking orders now for spring delivery.

J. B. HOLLOPETER, Pentz, Pa.

HELP WANTED

WANTED.—Experienced young man for our beekeeping supply department; one who has a knowledge of beekeeping and is not afraid to work. Give reference, and state salary expected. THE FRED W. MUTH CO., "The Busy Bee Men," 204 Walnut St., Cincinnati, Ohio.

Convention Notices

The annual meeting of the Western New York Honey-producers' Association will be held on Tuesday, November 14, 1916, at the American Hotel Hall, Akron, N. Y. An interesting program will be provided, covering various topics of interest to beekeepers. A good attendance is expected, as this has been a fairly good season. If any one has any new or practical ideas, short cuts or innovations of any kind, pertaining to beekeeping, he is invited to present them with details thereof. Election of officers for the coming year and other business of interest to members will be brought up for discussion. Every one interested in bees or honey is invited to attend.
Akron, N. Y., Oct. 13. WM. F. VOLLMER.

The twentieth annual meeting of the Chicago Northwestern Beekeepers' Association will be held in the Great Northern Hotel, Room 138, on Monday and Tuesday, December 4 and 5, 1916. The program is not completed, but the following expert to be there and read a paper on the subject following their names: N. E. France, Platteville, Wis., "Marketing Honey;" Edward Hassinger, Jr., Greenville, Wis., "About Heating and Clarifying Honey;" Louis C. Dadant, Hamilton, Ill., subject not announced; Kenneth Hawkins, Plainfield, Ill., "Displaying Live Bees in Chicago Groceries;" Dr. E. F. Phillips, Washington, D. C., "Extension Work in Beekeeping." The question-box will be made a strong feature. Of course many others will have papers.

Valparaiso, Ind. JOHN C. BULL, Sec.-treas.

ONTARIO BEEKEEPERS TO MEET IN TORONTO IN DECEMBER.

The Ontario Beekeepers' Association will hold its annual convention on Tuesday, Wednesday, and Thursday, December 12, 13, 14, in Toronto. This later date than usual will be welcomed by the beekeepers, as the great rush of fall apiary work will be over.

A very interesting program, extremely practical, has been arranged by the executive committee.

Prominent beekeepers from both Canada and United States will be present. Mr. C. P. Dadant, Hamilton, Illinois, editor of *The American Bee Journal*, will take up the question of "Prevention of Natural Swarming." Mr. Dadant is an extensive honey-producer, and has harvested over 100,000 pounds of honey this past season. The Dominion Apiarist, Mr. F. W. L. Sladen, in charge of the bee-investigation work on the various experimental farms, will speak of some line of his investigations. "Beeswax Production" will be discussed by Mr. W. A. Chrysler, of Chatham; and Mr. G. A. Deadman, Brussels, will deal with "The Use of Shallow Supers in Connection with the Regular Size." Comb honey has been successfully produced by Mr. S. B. Bisbee, Beamsville, and his experiences will be valuable and interesting. Special apianarian appliances will be explained by Mr. E. T. Bainard, Lambeth, and Mr. W. J. Craig, of Brantford.

Of special interest from the social side of the convention will be the banquet on Wednesday evening, at which Mr. Couse will speak of the "Past Presidents of the O. B. A." Mr. Couse has been a member continuously since the association was organized, and for many years he held prominent positions on the executive committee. His personal acquaintance with the past presidents enables him to handle his subject in a very interesting and able manner.

Programs will be ready for distribution shortly, and may be had by applying to the Secretary-treasurer, Morley Pettit, O. A. College, Guelph.

BEEKEEPING COURSE AT RUTGERS.

The need for and the opportunities in honey production are so large in New Jersey that Rutgers College has decided to offer a short course in bee husbandry.

It is believed that nine-tenths of the nectar annually secreted is lost thru lack of properly managed bees to gather it. It is known that tons of honey are annually brought into this state to supply local needs, and that practically no effort is being made to increase the use of honey.

In view of these facts the splendid opportunity for profitable honey production in the state is apparent.

Many have started producing honey without training, and with such a small number of colonies that success was impossible.

The largest honey-producer in the state has but 250 to 300 colonies of bees, representing an investment of not over \$3000, and the net proceeds average \$1500 annually.

One active man should be able to do all the work in handling 300 to 500 colonies, with the help of unskilled labor for two or three weeks during extracting time.

That this splendid resource of the state may be developed, Rutgers College will offer a short course in bee husbandry provided as many as four persons apply for the course. This course is planned to give the student a practical knowledge of profitable bee husbandry. Any one after completing the course, and after having spent one season in a commercial apiary, will be fitted to conduct profitably a honey-producing business.

Full particulars regarding this course can be had by addressing Prof. F. C. Minkler, Director Short Courses in Agriculture, New Brunswick, N. J.

TRADE NOTES

We call attention to the decidedly advantageous subscription offer now made on the back cover, giving one year's subscription to GLEANINGS, together with one's year's subscription to *Green's Fruit Grower* and the *American Poultry Advocate* (leaders in their fields) all for \$1.00. This is a rare chance in the subscription line. Take advantage of it while you can.

\$3.00 COMBINATION PRICE.

The combination price of a year's subscription to GLEANINGS IN BEE CULTURE and the new forthcoming edition of the A B C and X Y Z of Bee Culture has been fixed at \$3.00 (for the cloth binding). The new A B C and X Y Z will be off the press about Jan. 1 next. Orders for the new edition can be booked now.

DON'T SEND MORE.

That advertising in GLEANINGS pays is again proved by the fact that in response to our advertisement in our Oct. 1st issue for certain back numbers of our journal responses poured in from every direction until our need of back numbers was filled times over. Please don't send more; but remember that advertising in GLEANINGS pays.

Special Notices by A. I. Root

DEATH OF PROF. A. J. COOK.

We note by the *Western Honeybee* for October that our good friend Prof. Cook has gone. We are told that he died at the home of his son in Owosso, Mich., Sept. 29, aged 74 years. The above is the first intimation I have had of his death; and had I known that he was back to his old home in Michigan I would have considered paying him a visit. In our next issue I expect to give a sketch of my good friend of years ago. May God be praised that he died with an abiding faith in a glorious hereafter.

OFF TO FLORIDA, AND THAT "ADDRESSED POSTAL CARD."

As usual, Mrs. Root and I expect to start for our Florida home after I get my vote in an election day; and, God helping me, I expect to make that vote for men who, like myself, want to see the whole wide world dry—men who are not afraid to stand out before the world and declare themselves heart and soul for nation-wide prohibition of the liquor-traffic. Now about the postal card.

Down in my Florida home I cannot very well have a stenographer—that is, I would not have enough writing to keep a stenographer busy; and somehow in my old age I do not take to the dictaphone nor even to the typewriter. I can take my pen and write something on a postal card, and it does not wear on my nerves like these new-fangled inventions. Let me illustrate.

Altho I have for years past begged the friends to inclose an addressed postal card when writing to me, a good many seem to forget it or do not understand. One friend last winter asked a lot of questions that necessitated hunting over back volumes and interviewing books and catalogs for half an hour or more. When I was ready to answer him to the best advantage, by writing very small I got a good lot on the postal card he inclosed. When I turned it over I found he had omitted putting his name and address on it. Dear me! I wonder if anybody thinks I cannot afford to keep on hand a stock of one-cent stamps and postal cards. Well, I addressed the card as well as I could. He wrote his letter very well; but when it came to the name and address, he just put it on with a rush. After worrying over it I got it wrong, and in due time the card came back to me from the Dead-letter Office, marked, "No such office." When I went back to my files and found his letter again, and after more careful scrutiny, I found I had spelled the name of his town wrongly.

Now, then, friends, just fire at me as many letters as you choose; but before you write the letter, address a postal card so that Uncle Sam or your postmaster can read it; then write all you like, and I think I can promise to give you an early answer. You see, with an addressed postal card I do not even need to read your name unless I choose.

By the way, friends, why would it not be a splendid idea for every "mother's son" of you to have some postal cards with your address printed in plain black and white? and then when you are writing to anybody, no matter who, inclose a postal and help him to give you a prompt answer of some sort, may be while he is standing in the postoffice, so he can fire it right straight back at you?



ROOT QUALITY is emphasized in these stickers. Printed on high-grade gummed paper with a rich red ink, they reflect the taste of the user and add to the appearance of the stationery. Try 1000 and compare. 35c PER 1000 POSTPAID.

THE A. I. ROOT COMPANY, MEDINA, O.